

Query / Match	100.0%;	Score 960;	DB 2;	Length 188;
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Best Local Similarity 100.0%; Pred. No. 3,8e-90; Matches 188; Conservative 0; Mismatches 0; Indels 0; Gaps 0

OY 1 MALTFALLVALLVLSCKSSCSVGCDFPQTHSGSRRTLMLAQMRRIISLPSCLKRHDHG 60
Db 1 MALTFALLVALLVLSCKSSCSVGCDFPQTHSGSRRTLMLAQMRRIISLPSCLKRHDHG 60
OY 61 PFOEFBNQFOKAEETIPVLHEMIQQIFNLFTSKDSSAADETLIDKFYTELYOQLNDLEA 120
Db 61 PFOEFGNQFOKAERTIPVLHEMIQQIFNLFSTDSAADETLIDKFYTELYOQLNDLEA 120
OY 121 CVIOGVGTETLMKEDSLIARXKFORITLVLKEXKSPCAWEVVRATMSPSLSTUL 180
Db 121 CVIOGVGTETLMKEDSLIARXKFORITLVLKEXKSPCAWEVVRATMSPSLSTUL 180
OY 181 QESLRKE 188
Db 181 QESLRKE 188

RESULT 2
AAV69484
ID AAV69484 standard; protein; 188 AA.
XX
AC AAV69484;
XX
DT 03-JUL-2000 (first entry)
XX
De Amino acid sequence of human interferon-alpha2B.
XX
KW Human; interferon-alpha2B; IFN-MM gene; chicken magnum; transgenic avian;
RV oviduct; viral particle; deleterious mutation; avian egg.
OS Synthetic.
OS Homo sapiens.
OS Gallus sp.
XX MO200011151-AZ.
PN
PP 02-MAR-2000.
PD
PF 25-AUG-1999; 99MO-US019393.
PR
PX 25-AUG-1998; 98US-00139902.
XX
PA (UYGE-) UNIV GEORGIA RES FOUND INC.
PA (AVIG-) AVIGENICS INC.
XX
PI Ivarie R, Harvey AJ, Murphy GF, Rapp JC;
PI WPI; 2000-237645/20.
DR N-P5DB; AA299577, AA299578.
XX
XX Direct oviduct transgenesis of avians useful for expression of exogenous proteins in eggs and for assessing suitability of expression cassettes or to screen a preparation of viral particles for deleterious mutations.
XX Example 1; Page 53-54; 54pp; English.

The present sequence represents human interferon-alpha2B polypeptide. The polynucleotide was modified with codons for the chicken magnum, and used to construct a vector for use in the method of the invention. The specification describes a method for preparing a transgenic avian which expresses an exogenous protein substantially only in its oviduct. The method comprises delivering a nucleic acid expression cassette directly to the oviduct of an immature avian, where the nucleic acid expression cassette comprises a promoter active in the avian oviduct, and a nucleic acid sequence coding for an exogenous protein, linked to the promoter. The method can be used to screen a preparation of viral particles for deleterious mutations. It can also be used to test the suitability of a transgene for expression in an avian oviduct or for secretion of its expression product into the lumen of the oviduct and into eggs of an avian

XX	Sequence 188 AA;
SQ	
Query Match	100.0%; Score 960; DB 3; Length 188;
Best Local Similarity	100.0%; Pred. No. 3.8e-90;
Matches 188; Conservative	0; Mismatches 0; Indels 0; Gaps 0
Dy	1 MALPFLVALLVALVLSCKSSCGVCDLPOTHSILGSRRTMLLAQMRRISLFSGLKPRHDFG 60
Dd	1 MALPFLVALLVALVLSCKSSCGVCDLPOTHSILGSRRTMLLAQMRRISLFSGLKPRHDFG 60
Oy	61 PPOEFGNQPKAKETIPVLHEMIOQIFNLFTSKDSSAAMDITLDKFYTELYOQLNDDEA 120
Dd	61 PPOEFGNQPKAKETIPVLHEMIOQIFNLFTSKDSSAAMDITLDKFYTELYOQLNDDEA 120
Oy	121 CVIIGVGTEPLMKEDSIIAVRKYFORITLYLKEXKSPCAMEVYRAIMRSFSLSTNL 180
Dd	121 CVIIGVGTEPLMKEDSIIAVRKYFORITLYLKEXKSPCAMEVYRAIMRSFSLSTNL 180
Oy	181 QESLRKE 188
Dd	181 QESLRKE 188
RESULT 3	
ID	.AAEI5828 standard; protein; 188 AA.
XX	.AAEI5828;
AC	
DT	26-MAR-2002 (first entry)
XX	
DE	Human interferon (IFN) alpha 2 protein.
KM	Human; vaccine; immunostimulatory molecule; interferon; IFN; therapy;
KW	antigen presentation; vaccine; tumorigenesis; cancer; cytotoxic;
XX	antitumour; antibacterial; virucide; fungicide; protozoacide.
CS	Homo sapiens.
PN	WO20018097-A1.
PD	22-NOV-2001.
Pf	17-MAY-2001; 2001WO-AU00565.
PR	17-MAY-2000; 2000AU-00007553.
PA	(MONU) UNIV MONASH.
PI	Ralph SJ;
DR	WPI; 2002-082990/11.
N-PDB;	AAD25508.
PT	New composition, useful for treatment and/or prophylaxis of cancer and
PT	tumor, comprises immunostimulatory molecule and animal cells cultured in
PT	presence of interferon to enhance antigen presenting function of the
PT	cells.
PS	Claim 45; Page 96-97; 127pp; English.
CC	The present invention relates to a composition of matter comprising an
CC	immunostimulatory molecule and animal cells cultured in the presence of
CC	at least one interferon (IFN) for a time and under conditions sufficient
CC	to enhance the antigen presenting function of the cells. The invention is
CC	used as vaccine. The composition is useful for treatment and/or
CC	prophylaxis of tumorigenesis, cancer, viral, bacterial, fungal and
CC	protozoal infections. The composition which comprises the soluble
CC	immunostimulatory molecule and the cultured animal cells is administered
CC	separately, sequentially or simultaneously to the patient. The present
CC	sequence is human IFN alpha 2 protein
XX	

sq Sequence 188 AA;
Query Match 100.0%; Score 960; DB 5; Length 188;
Best Local Similarity 100.0%; Pred. No. 3.8e-90;
Matches 188; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY 1 MALTFALVALVLSCKSSGVGCDLPQTHSLGSRRTMLLAQMRISLFSCLKDRHDFG 60
1 MALTFALVALVLSCKSSGVGCDLPQTHSLGSRRTMLLAQMRISLFSCLKDRHDFG 60
DB 61 PPOEFGNPOKAEITPVILHEMIQOIIFNLFTSKDSSAAMDETLLDKFYTELXQQLNDLEA 120
61 PPOEFGNPOKAEITPVILHEMIQOIIFNLFTSKDSSAAMDETLLDKFYTELXQQLNDLEA 120
QY 121 CVIQGVGTETPLMKEDSILAVRKYFORITLYLKEKKYSPCAWEVYRAEIMRSFSLSTNL 180
121 CVIQGVGTETPLMKEDSILAVRKYFORITLYLKEKKYSPCAWEVYRAEIMRSFSLSTNL 180
DB 181 QESLSRKE 188
181 QESLSRKE 188
QY 181 QESLSRKE 188
181 QESLSRKE 188
DB 181 QESLSRKE 188
181 QESLSRKE 188
RESULT 4
AAE18957
ID AAE18957 standard; protein; 188 AA.
XX AAE18957;
AC AAE18957;
XX 21-MAY-2002 (first entry)
DT 21-MAY-2002 (first entry)
XX Human alpha-2b-interferon precursor protein.
DE Human alpha-2b-interferon precursor protein.
XX Human, duckweed plant; alpha-2b-interferon; haemoglobin; vaccination;
KW collagen; 450 oxidase; industrial; chemical process; therapeutic; enzyme.
XX Homo sapiens.
OS Homo sapiens.
XX Key Location/Qualifiers
FH Peptide 1..23
FT /label= Signal_peptide
FT Protein 24..188
FT /label= Mature_alpha_2b_interferon
XX WO200210414-A2.
PN WO200210414-A2.
XX 07-FEB-2002.
PD 07-FEB-2002.
XX 26-JUL-2001; 2001WO-US023400.
PF 26-JUL-2001; 2001WO-US023400.
XX 31-JUL-2000; 2000US-0221705P.
PR 31-JUL-2000; 2000US-0221705P.
XX 23-MAY-2001; 2001US-0293330P.
PR 23-MAY-2001; 2001US-0293330P.
XX (BIOL-) BIOLEX INC.
PA (BIOL-) BIOLEX INC.
XX Stomp A, Dickey L, Gadaaka J;
PI Stomp A, Dickey L, Gadaaka J;
XX WPI; 2002-195966/25.
DR WPI; 2002-195966/25.
XX Producing recombinant polypeptides from duckweed plant culture, by
PT transforming culture with nucleotide sequence coding for the polypeptide
PT and signal peptide that directs polypeptide secretion into culture
PT medium.
XX Claim 21; Page 45-46; 47p; English.
PS Claim 21; Page 45-46; 47p; English.
XX The invention relates to a method for producing a biologically active
CC recombinant polypeptide. The method comprises culturing a duckweed plant
CC culture or duckweed nodule culture, which is stably transformed to
CC express the polypeptide encoded by a nucleotide sequence that has been
CC modified for enhanced expression in duckweed and collecting the
CC polypeptide from duckweed plant or nodule culture. The method is useful
CC for producing a biologically active recombinant polypeptide and for the

CC directed secretion of the polypeptide from duckweed plant or nodule
CC cultures. The polypeptides include a mammalian, therapeutic polypeptide
CC such as insulin, interferons, monoclonal antibodies, cytokines, vaccines,
CC in particular human alpha-2b-interferon or its biologically active
CC variant. The duckweed from culture or duckweed nodule culture expresses
CC and assembles all of the subunits of a biologically active multimeric
CC protein chosen from collagen, haemoglobin, P450 oxidase, and a monoclonal
CC antibody, useful for industrial or chemical processes or for diagnostic,
CC therapeutic or vaccination purposes. Nucleic acid encoding the
CC recombinant polypeptides are useful for the expression and secretion of
CC human alpha-2b-interferon in duckweed. The present sequence is human
CC alpha-2b-interferon precursor protein
SQ Sequence 188 AA;
Query Match 100.0%; Score 960; DB 5; Length 188;
Best Local Similarity 100.0%; Pred. No. 3.8e-90;
Matches 188; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY 1 MALTFALVALVLSCKSSGVGCDLPQTHSLGSRRTMLLAQMRISLFSCLKDRHDFG 60
1 MALTFALVALVLSCKSSGVGCDLPQTHSLGSRRTMLLAQMRISLFSCLKDRHDFG 60
DB 61 PPOEFGNPOKAEITPVILHEMIQOIIFNLFTSKDSSAAMDETLLDKFYTELXQQLNDLEA 120
61 PPOEFGNPOKAEITPVILHEMIQOIIFNLFTSKDSSAAMDETLLDKFYTELXQQLNDLEA 120
QY 121 CVIQGVGTETPLMKEDSILAVRKYFORITLYLKEKKYSPCAWEVYRAEIMRSFSLSTNL 180
121 CVIQGVGTETPLMKEDSILAVRKYFORITLYLKEKKYSPCAWEVYRAEIMRSFSLSTNL 180
DB 121 CVIQGVGTETPLMKEDSILAVRKYFORITLYLKEKKYSPCAWEVYRAEIMRSFSLSTNL 180
121 CVIQGVGTETPLMKEDSILAVRKYFORITLYLKEKKYSPCAWEVYRAEIMRSFSLSTNL 180
QY 181 QESLSRKE 188
181 QESLSRKE 188
DB 181 QESLSRKE 188
181 QESLSRKE 188
RESULT 5
ABB07434
ID ABB07434 standard; peptide; 188 AA.
XX ABB07434;
AC ABB07434;
XX 09-APR-2002 (first entry)
DT 09-APR-2002 (first entry)
XX Interferon-alpha2 protein fragment.
DE Interferon-alpha2 protein fragment.
XX Interferon-beta-2; IFN-beta2; neuroprotective; cytostatic; virucide;
KW antitachytic; antineumatic; gene therapy; interferon-alpha2.
XX Unidentified.
OS Unidentified.
XX WO200195929-A2.
PN WO200195929-A2.
XX 20-DEC-2001.
PD 20-DEC-2001.
XX 18-JUN-2001; 2001WO-US041022.
PF 18-JUN-2001; 2001WO-US041022.
XX 16-JUN-2000; 2000US-0212046P.
PR 16-JUN-2000; 2000US-0212046P.
XX 15-JUN-2001; 2001US-00881050.
PR 15-JUN-2001; 2001US-00881050.
XX (SCHD) SCHERING AG.
PA (SCHD) SCHERING AG.
XX Croze EM, Faulde D, Wagner TC;
PI Croze EM, Faulde D, Wagner TC;
XX WPI; 2002-130714/17.
DR WPI; 2002-130714/17.
XX Composition for treating multiple sclerosis, cancer and viral diseases
PT and infections, comprises human interferon-beta-2 or its biologically-
PT active fragment or derivative.
XX Disclosure; Fig 4; 61p; English.
PS Disclosure; Fig 4; 61p; English.
XX The invention relates to a pharmaceutical composition comprising a

CC therapeutically effective amount of human interferon-beta-2 (IFN-beta2)
 CC polypeptide. The composition is useful for treating multiple sclerosis in
 CC mammals, in particular a human in need of such treatment, and also cancer
 CC e.g. intraepithelial neoplasia and cervical cancer, autoimmune diseases
 CC e.g. rheumatoid arthritis and viral diseases or infections. The
 CC composition is useful for anti-oncogene regulation, antitumor activity,
 CC antiviral activity, cell growth inhibition or antiproliferative activity, anti-
 CC proliferation, enhancement of cytotoxicity of lymphocytes, induction or
 CC inhibition of differentiation of target cells, immunoregulatory activity,
 CC macrophage activation and down-regulation of oncogenes. Sequences
 CC ABB07427-441 represent various interferon (IFN) sequences used for
 CC alignment studies with the human IFN-beta2 polypeptide
 CC
 SQ Sequence 188 AA;

Query Match 100.0%; Score 960; DB 5; Length 188;
 Best Local Similarity 100.0%; Pred. No. 3.8e-90;
 Matches 188; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 MALTFAVLVALLVSCSSGVGCDLPQTHSLGSRRTMLLAQMRRLSLFSCLDKRDHDFG 60
 DB 1 MALTFAVLVALLVSCSSGVGCDLPQTHSLGSRRTMLLAQMRRLSLFSCLDKRDHDFG 60
 QY 61 FPOEFGNFOKAKETIPVLHEMIQOIFNLSTKSSAAMDETLLDKFYTELQOANDLEA 120
 DB 61 FPOEFGNFOKAKETIPVLHEMIQOIFNLSTKSSAAMDETLLDKFYTELQOANDLEA 120
 QY 121 CVIQGVGTETPLMKEDSILAVKRYFORITLYLKEKYSPCAMEVVAETMRSPSLSTNL 180
 DB 121 CVIQGVGTETPLMKEDSILAVKRYFORITLYLKEKYSPCAMEVVAETMRSPSLSTNL 180
 QY 181 QESLRKE 188
 DB 181 QESLRKE 188

RESULT 6
 ABR55840
 ID ABR55840 standard; protein; 188 AA.
 AC ABR55840;

DT 02-SEP-2003 (first entry)
 DE Human interferon-alpha (IFN-alpha).
 XX Peptide remodeling; glycosylation; glycosyltransferase; glycan;
 KW interferon-alpha; IFN-alpha; human.
 XX

OS Homo sapiens.

XX WO2003031464-A2.

XX 17-APR-2003.

PF 09-OCT-2002; 2002W0-US032263.

XX 10-OCT-2001; 2001US-0328523P.

PR 19-OCT-2001; 2001US-0344692P.

PR 28-NOV-2001; 2001US-034233P.

PR 07-JUN-2002; 2002US-0387292P.

PR 25-JUN-2002; 2002US-0387292P.

PR 17-JUL-2002; 2002US-0386594P.

PR 16-AUG-2002; 2002US-0404249P.

PR 28-AUG-2002; 2002US-0407527P.

XX (NEOS-) NEOSE TECHNOLOGIES INC.
 PI De Frees S, Zopf D, Bayer R, Bowe C, Hakes D, Chen X;
 XX WPI; 2003-449162/42.
 DR N-PDB; ACP78870.

XX Remodeling a peptide, by removing a saccharyl subunit from the peptide to
 PT form truncated glycan, and adding or deleting glycosyl groups to a
 PT peptide and/or adding modifying group of a peptide to remodel the
 PT peptide.

XX Example; Fig 53B; 900bp; English.

CC The invention relates to a cell-free, in vitro method of remodeling a
 CC peptide. The method involves removing a saccharyl subunit from the
 CC peptide, thus forming a truncated glycan, and contacting the truncated
 CC glycan with at least one glycosyltransferase and at least one glycosyl donor
 CC under conditions suitable to transfer at least one glycosyl donor
 CC to the truncated glycan, thus remodeling the peptide. Conjugates can be
 CC formed between a granulocyte colony stimulating factor (G-CSF) peptide,
 CC interferon alpha peptide, interferon beta peptide, Factor VIIa peptide,
 CC Factor IX peptide, follicle stimulating hormone peptide, erythropoietin
 CC (EPO) peptide, granulocyte macrophage colony stimulating factor (GM-CSF)
 CC peptide, interferon-gamma peptide, alpha-1-protease inhibitor (A-1-P)
 CC peptide, beta-glucosidase peptide, tissue plasminogen activator (TPA)
 CC peptide, interleukin-2 (IL-2) peptide, Factor VIII peptide, TNFalpha
 CC receptor/immunoglobulin (Ig) G fusion peptide, cytokine peptide, anti-
 CC glycoprotein IIb/IIIa monoclonal antibody peptide, chimeric anti HER2
 CC antibody peptide, anti-respiratory syncytial virus (RSV) F peptide, anti-
 CC CD20 antibody peptide, recombinant DNase peptide, anti-TNF alpha peptide,
 CC insulin peptide, hepatitis B surface antigen (HbsAg), human growth
 CC hormone (HGH) peptide, and a modifying group, where the modifying group
 CC is covalently attached to the peptide through an intact glycosyl linking
 CC group. The method is useful for a cell-free, in vitro method of
 CC remodeling the above mentioned peptides. The present sequence represents
 CC a human interferon-alpha (IFN-alpha)

SQ Sequence 188 AA;

Query Match 100.0%; Score 960; DB 6; Length 188;
 Best Local Similarity 100.0%; Pred. No. 3.8e-90;
 Matches 188; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 MALTFAVLVALLVSCSSGVGCDLPQTHSLGSRRTMLLAQMRRLSLFSCLDKRDHDFG 60
 DB 1 MALTFAVLVALLVSCSSGVGCDLPQTHSLGSRRTMLLAQMRRLSLFSCLDKRDHDFG 60
 QY 61 FPOEFGNFOKAKETIPVLHEMIQOIFNLSTKSSAAMDETLLDKFYTELQOANDLEA 120
 DB 61 FPOEFGNFOKAKETIPVLHEMIQOIFNLSTKSSAAMDETLLDKFYTELQOANDLEA 120
 QY 121 CVIQGVGTETPLMKEDSILAVKRYFORITLYLKEKYSPCAMEVVAETMRSPSLSTNL 180
 DB 121 CVIQGVGTETPLMKEDSILAVKRYFORITLYLKEKYSPCAMEVVAETMRSPSLSTNL 180
 QY 181 QESLRKE 188
 DB 181 QESLRKE 188

RESULT 7
 AA016454
 ID AA016454 standard; protein; 188 AA.
 AC AA016454;

DT 17-APR-2003 (first entry)

DE Human interferon alpha 2.

XX Human, cellular proliferation inhibitor; interferon alpha 2;

KW single nucleotide polymorphism; SNP; cancer; tumour; metabolic disease;

KW cardiovascular disease; infectious disease; immunological disease; HIV;

KW central nervous system disease; wound healing; chemotherapy side effect;

KW anaemia; osteoporosis; gastrointestinal disease; venereal disease; AIDS;

KW obesity; hepatitis; infectious pneumonia; Alzheimer's disease; allergy;

KW Parkinson's disease; multiple sclerosis; schizophrenia; depression;

KW graft versus host disease; asthma; psoriasis; rheumatoid arthritis;

KM Crohn's disease; ulcerative colitis; genital wart.
 OS Homo sapiens.
 XX EPI236800-A2.
 PN
 XX
 PD 04-SEP-2002.
 XX
 PF 01-MAR-2002; 2002EP-00290515.
 XX
 PR 01-MAR-2001; 2001FR-00002843.
 XX
 XX (GENO-) GENODYSSEE.
 PA
 XX
 PI Escary J;
 XX
 DR WPI; 2003-185789/19.
 DR N-PSDB; AAL51608.
 XX
 PT An isolated polynucleotide encoding interferon alpha 2 containing single
 PT nucleotide polymorphisms is useful in treating disease.
 XX
 PS Claim 16; Page 33; 42pp; English.
 XX
 CC The invention comprises the amino acid and coding sequence of the human
 CC interferon alpha 2 protein. The invention further relates to the
 CC identification of single nucleotide polymorphisms (SNPs) within the human
 CC interferon alpha 2 gene. The DNA and protein sequences of the invention
 CC are useful for the treatment of: cancer; tumours; cardiovascular diseases
 CC ; metabolic diseases; infectious diseases; central nervous system
 CC diseases; immunological diseases; wound healing; chemotherapy side
 CC effects; anaemia; osteoporosis; gastrointestinal diseases; venereal
 CC diseases; obesity; hepatitis; HIV/AIDS; infectious pneumonias;
 CC Alzheimer's disease; Parkinson's disease; multiple sclerosis;
 CC schizophrenia; depression; graft versus host disease; allergies; asthma;
 CC psoriasis; rheumatoid arthritis; Crohn's disease; ulcerative colitis; and
 CC genital warts. The present amino acid sequence represents the human
 CC interferon alpha 2 protein of the invention
 XX
 XX Sequence 188 AA;
 SQ
 Query Match 100.0%; Score 960; DB 6; Length 188;
 Best Local Similarity 100.0%; Pred. No. 3.8e-90;
 Matches 188; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 QY 1 MALTFALLVALLVLSCKSSCSVGCGLPQTHSLGSRRTMLLAQMRRIISFSCIKDRHDFG 60
 DB 1 MALTFALLVALLVLSCKSSCSVGCGLPQTHSLGSRRTMLLAQMRRIISFSCIKDRHDFG 60
 QY 61 FPOEEFGNFOKAEITPVHEMIQOIFNLFSTKSSAAMDETLLDKFYTELQOINDLEA 120
 DB 61 FPOEEFGNFOKAEITPVHEMIQOIFNLFSTKSSAAMDETLLDKFYTELQOINDLEA 120
 QY 121 CVIOGVGVETETPLMKEDSILAVRKYFORITLYLKEKKYSPCAWEVVRAEIMRSFSLSTNL 180
 DB 121 CVIOGVGVETETPLMKEDSILAVRKYFORITLYLKEKKYSPCAWEVVRAEIMRSFSLSTNL 180
 QY 181 QESLSRKE 188
 DB 181 QESLSRKE 188
 RESULT 8
 ADP77247
 ID ADP77247 standard; protein; 188 AA.
 XX
 AC ADP77247;
 XX
 DT 26-FEB-2004 (first entry)
 XX
 DE Interferon alpha.
 XX
 KM interferon alpha expression plasmid; tumour; IL-12.
 KW

XX
 OS Unidentified.
 XX
 PN US2003181405-A1.
 XX
 PD 25-SEP-2003.
 XX
 PF 29-APR-2002; 2002US-00136837.
 XX
 PR 12-MAR-1999; 99US-00268135.
 XX
 XX (NORD/) NORDSTROM J L.
 PA (PERI/) PERICLE F.
 PA (ROL/) ROLLAND A.
 PA (RAL/) RALSTON R O.
 XX
 PI Nordstrom JL, Pericle F, Rolland A, Ralston RO;
 XX
 DR WPI; 2004-020834/02.
 XX
 PT A mammalian interferon alpha expression plasmid is useful in gene therapy
 PT to deliver interferon alpha to cells to modulate tumor activity in the
 PT treatment of cancer.
 XX
 PS Disclosure; SEQ ID NO 9; 65pp; English.
 XX
 CC The invention relates to a mammalian interferon alpha expression plasmid,
 CC comprising a promoter and a synthetic 5' intron transcriptionally linked
 CC with an interferon alpha coding sequence and a 3' untranslated region.
 CC The mammalian interferon alpha expression plasmid is useful for treating
 CC tumor growth. The present sequence is used in the exemplification of the
 CC present invention.
 XX
 XX Sequence 188 AA;
 SQ
 Query Match 100.0%; Score 960; DB 8; Length 188;
 Best Local Similarity 100.0%; Pred. No. 3.8e-90;
 Matches 188; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 QY 1 MALTFALLVALLVLSCKSSCSVGCGLPQTHSLGSRRTMLLAQMRRIISFSCIKDRHDFG 60
 DB 1 MALTFALLVALLVLSCKSSCSVGCGLPQTHSLGSRRTMLLAQMRRIISFSCIKDRHDFG 60
 QY 61 FPOEEFGNFOKAEITPVHEMIQOIFNLFSTKSSAAMDETLLDKFYTELQOINDLEA 120
 DB 61 FPOEEFGNFOKAEITPVHEMIQOIFNLFSTKSSAAMDETLLDKFYTELQOINDLEA 120
 QY 121 CVIOGVGVETETPLMKEDSILAVRKYFORITLYLKEKKYSPCAWEVVRAEIMRSFSLSTNL 180
 DB 121 CVIOGVGVETETPLMKEDSILAVRKYFORITLYLKEKKYSPCAWEVVRAEIMRSFSLSTNL 180
 QY 181 QESLSRKE 188
 DB 181 QESLSRKE 188
 RESULT 9
 ADL24486
 ID ADL24486 standard; protein; 188 AA.
 XX
 AC ADL24486;
 XX
 DT 03-JUN-2004 (first entry)
 XX
 DE Human interferon alpha protein.
 XX
 KM human; interferon alpha isoform; glycosylation; antiinflammatory;
 KM hepatotropic; virucide; neuroprotective; cytosolic; IFN alpha.
 XX
 OS Homo sapiens.
 XX
 XX
 XX
 FT Key Location/Qualifiers
 FT Region 31..44

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FT      /note= "helix"  
FT      74..90  
FT      /note= "helix"  
FT      139..156  
FT      /note= "helix"  
FT      160..180  
FT      /note= "helix"  
XX      MO2004019856-A2.  
XX      11-MAR-2004.  
XX      29-AUG-2003; 2003WO-KR001765.  
XX      31-AUG-2002; 2002KR-00052365.  
XX      (CUCJ-) CJ CORP.  
XX      Lee E, Park H, Kim H, Park J, Kim Y, Lee H, Koh H, Oh M;  
XX      WPI; 2004-239105/22.  
XX      N-PSDB; ADL24485.  
XX      New amino acid-modified human interferon alpha isoform having a sequence  
XX      formed at a specific amino acid residue position where glycosylation is  
XX      to take place, useful for treating e.g. chronic active hepatitis B.  
XX      Example 2; Fig 1; 52pp; English.  
XX      The present invention relates to a modified version of a human interferon  
XX      alpha (IFN alpha) isoform having a sequence formed at a specific amino  
XX      acid residue position so that glycosylation takes place at these sites.  
XX      Interferon may be used for the treatment of chronic active hepatitis B,  
XX      acute viral encephalitis, nasopharyngeal carcinoma, and the like. The  
XX      present sequence is the human interferon alpha protein.  
SQ      Sequence 188 AA;  
Query Match      100.0%; Score 960; DB 8; Length 188;  
Best Local Similarity 100.0%; Pred. No. 3.8e-90;  
Matches 188; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
QY      1 MALTFALLVALLVLSCKSSCSVGCGLPQTHSGSRRTMLLAQMRISLFSCLDRHDFG 60  
DB      1 MALTFALLVALLVLSCKSSCSVGCGLPQTHSGSRRTMLLAQMRISLFSCLDRHDFG 60  
QY      61 PPOEEFGNOFOKAEITPVLAHEMIQIENLFSSTKSSAAMDETLDDKFTTELYQQLNDLEA 120  
DB      61 PPOEEFGNOFOKAEITPVLAHEMIQIENLFSSTKSSAAMDETLDDKFTTELYQQLNDLEA 120  
QY      121 CVIIGVGVTETPLMKEDSILAVRKYFORITLYLKEKKYSPCAWEVVAEIRSFSLSTNL 180  
DB      121 CVIIGVGVTETPLMKEDSILAVRKYFORITLYLKEKKYSPCAWEVVAEIRSFSLSTNL 180  
QY      181 QESLSRKE 188  
DB      181 QESLSRKE 188  
RESULT 10  
ADN49676  
ID      ADN49676 standard; protein; 188 AA.  
XX      ADN49676;  
XX      15-JUL-2004 (first entry)  
XX      Human interferon alpha IFN-alpha protein Segid 4.  
XX      human; erythropoietin; EPO; glycoconjugation; glycosylated EPO peptide;  
XX      anaemia; antianaemic; haematocrit level; kidney dialysis; haematology;  
XX      interferon alpha; IFN-alpha.
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OS      Homo sapiens.  
XX      MO2004033651-A2.  
XX      22-APR-2004.  
XX      08-OCT-2003; 2003WO-US031974.  
XX      09-OCT-2002; 2002WO-US032263.  
XX      05-NOV-2002; 2002US-00287994.  
XX      06-JAN-2003; 2003US-00360770.  
XX      19-FEB-2003; 2003US-00360779.  
XX      09-APR-2003; 2003US-00410945.  
XX      (NEOS-) NBOSE TECHNOLOGIES INC.  
XX      De Frees S, Zopf D, Bayer R, Bowe C, Hakes D, Chen X;  
XX      WPI; 2004-399848/37.  
XX      N-PSDB; ADN49675.  
XX      Novel erythropoietin peptide comprising one or more glycans, having  
XX      glycoconjugate molecule covalently attached to peptide, useful for  
XX      treating anemia in mammal such as human.  
XX      Disclosure; SEQ ID NO 4; 1018pp; English.  
XX      This invention relates to novel erythropoietin (EPO) peptides and the  
XX      remodelling and glycoconjugation of these naturally occurring peptides  
XX      thereof. Specifically, each EPO peptide comprises one or more glycans and  
XX      has a glycoconjugate molecule such as polyethylene glycol (PEG) attached  
XX      to it. Accordingly, the present invention provides glycosylated EPO  
XX      peptides that have either monomannary, biantennary or triantennary  
XX      glycans covalently attached thereto. As such, these peptides are useful  
XX      for the treatment of anaemia, and hence exhibit antianaemic activities  
XX      working to increase haematocrit levels in mammals, in particular in  
XX      humans i.e. increasing the relative volume of blood occupied by  
XX      erythrocytes. Furthermore, EPO therapy can be used to treat kidney  
XX      dialysis patients. This polypeptide is a human protein sequence related  
XX      to the field of haematology, given in an exemplification of the  
XX      invention.  
SQ      Sequence 188 AA;  
Query Match      100.0%; Score 960; DB 8; Length 188;  
Best Local Similarity 100.0%; Pred. No. 3.8e-90;  
Matches 188; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
QY      1 MALTFALLVALLVLSCKSSCSVGCGLPQTHSGSRRTMLLAQMRISLFSCLDRHDFG 60  
DB      1 MALTFALLVALLVLSCKSSCSVGCGLPQTHSGSRRTMLLAQMRISLFSCLDRHDFG 60  
QY      61 PPOEEFGNOFOKAEITPVLAHEMIQIENLFSSTKSSAAMDETLDDKFTTELYQQLNDLEA 120  
DB      61 PPOEEFGNOFOKAEITPVLAHEMIQIENLFSSTKSSAAMDETLDDKFTTELYQQLNDLEA 120  
QY      121 CVIIGVGVTETPLMKEDSILAVRKYFORITLYLKEKKYSPCAWEVVAEIRSFSLSTNL 180  
DB      121 CVIIGVGVTETPLMKEDSILAVRKYFORITLYLKEKKYSPCAWEVVAEIRSFSLSTNL 180  
QY      181 QESLSRKE 188  
DB      181 QESLSRKE 188  
RESULT 11  
ADU74352  
ID      ADU74352 standard; protein; 188 AA.  
XX      ADU74352;  
XX      10-FEB-2005 (first entry)
```

DE Human interferon-alpha.
 XX Hemostatic; Hepatotropic; Antianemic; Cytostatic; Osteopathic;
 KW Antibacterial; Respiratory-Gen.; Antiinflammatory; Nephrotropic;
 KW Antifertility; Antitubercular; Tuberculostatic; protein engineering;
 KW bleeding; factor VIII deficiency; factor IX deficiency; liver cirrhosis;
 KW infertility; anemia; end-stage renal disease; acute myelogenous leukemia;
 KW osteoporosis; pulmonary fibrosis; tuberculosis.
 XX
 OS Homo sapiens.
 XX
 PN WO2004099231-A2.
 XX
 PD 18-NOV-2004.
 XX
 PF 09-APR-2004; 2004MO-US011494.
 XX
 PR 09-APR-2003; 2003US-00410897.
 PR 09-APR-2003; 2003US-00410913.
 PR 09-APR-2003; 2003US-00410930.
 PR 09-APR-2003; 2003US-00410945.
 PR 09-APR-2003; 2003US-00410962.
 PR 09-APR-2003; 2003US-00410980.
 PR 09-APR-2003; 2003US-00410997.
 PR 09-APR-2003; 2003US-00411012.
 PR 09-APR-2003; 2003US-00411026.
 PR 09-APR-2003; 2003US-00411037.
 PR 09-APR-2003; 2003US-00411043.
 PR 09-APR-2003; 2003US-00411044.
 PR 09-APR-2003; 2003US-00411049.
 XX
 PA (NEOS-) NEOSE TECHNOLOGIES INC.
 XX
 PI De Frees S, Zopf D, Bayer R, Bowe C, Hakes D, Chen X;
 DR MPI; 2004-833698/82.
 DR N-PSDB; ADU74351.
 XX
 PT Cell-free in vitro method of remodeling peptide comprising poly(ethylene glycol) useful for generating glycopeptide suitable for therapeutic uses in mammal, involves addition or deletion of glycosyl groups to peptide.
 XX
 PS Disclosure; SEQ ID NO 4; 1024bp; English.
 XX
 CC The invention relates to a cell-free in vitro method (M1) of remodeling a peptide comprising poly(ethylene glycol). (M1) is useful for remodeling a protein to generate glycopeptide having desired glycosylation pattern suitable for therapeutic use in mammal. (M1) is useful for remodeling peptides chosen from immunoglobulin, erythropoietin, tissue-type CC activator peptide, etc. (M1) is useful for remodeling (a) G-CSF which is CC useful for treating acute myeloid leukemia (AML), non-myeloid cancer CC patient receiving bone marrow transplant, (b) factor VII for treating CC bleeding episode, factor VIII deficiency, factor IX deficiency, liver CC cirrhosis, (c) FSH for patients undergoing intrauterine insemination, in CC vitro fertilization and for infertile patient, (d) EPO for treating CC anemia, anemic patients having chronic renal insufficiency and end stage CC renal disease, anemic patient undergoing dialysis, (e) GM-CSF for CC treating acute myelogenous leukemia, (f) IFN-gamma for treating malignant CC osteoporosis, pulmonary fibrosis, tuberculosis, cryptococcal meningitis, CC etc. The glycopeptide produced using (M1) has specific customized or CC desired glycosylation pattern. (M1) allows efficient production of CC improved therapeutic moiety. The present sequence represents the amino CC acid sequence of a protein remodelled in the present invention
 XX
 XX Sequence 188 AA;
 SQ
 Query Match 100.0%; Score 960; DB 8; Length 188;
 Best Local Similarity 100.0%; Pred. No. 3 8e-90;
 Matches 188; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 QY 1 MULTPALLVALLVLSCKSSGVCGLDLPQHSLSGRTTLMALQMRRLSFLSCIKDRHDFG 60
 DB 1 MULTPALLVALLVLSCKSSGVCGLDLPQHSLSGRTTLMALQMRRLSFLSCIKDRHDFG 60

QY 61 PROEFNGOROKAETTPVLEHMTQOIENLESTKSSAAMDETLIDKRYTELXOOLNLEA 120
 DB 61 PROEFNGOROKAETTPVLEHMTQOIFNLSTKSSAAMDETLIDKRYTELXOOLNLEA 120
 QY 121 CVIQGVGTETPLMKEDSLIAVRKYFORITLYLKEKKYSPCAMEVVAEIMRSFSLSTNL 180
 DB 121 CVIQGVGTETPLMKEDSLIAVRKYFORITLYLKEKKYSPCAMEVVAEIMRSFSLSTNL 180
 QY 181 QESLSRKE 188
 DB 181 QESLSRKE 188
 RESULT 12
 ADZ46960
 ID ADZ46960 standard; protein; 188 AA.
 XX
 AC ADZ46960;
 XX
 DT 30-JUN-2005 (first entry)
 XX
 DE Human precursor alpha 2B interferon.
 XX
 KM Protein production; interferon; transgenic plant; codon usage.
 OS Homo sapiens.
 XX
 FH Key Location/Qualifiers
 FT Peptide 1..24
 FT /note="Signal peptide"
 FT Protein 24..188
 FT /note="Mature interferon"
 XX
 PN WO2005035768-A1.
 PD 21-APR-2005.
 XX
 PF 16-APR-2004; 2004MO-US011968.
 XX
 PR 30-SEP-2003; 2003US-00675011.
 PR 05-MAR-2004; 2004US-00794615.
 XX
 PA (BIOL-) BIOLEX INC.
 XX
 PI Dickey L, Gasdaska J, Cox K, Peele CG, Spencer D;
 DR MPI; 2005-306370/31.
 XX
 PT Producing a recombinant polypeptide in a duckweed plant or nodule culture CC comprises culturing within a duckweed culture medium a duckweed plant CC culture or a duckweed nodule culture, which is stably transformed to CC express the polypeptide.
 XX
 PS Disclosure; SEQ ID NO 4; 62pp; English.
 XX
 CC The invention relates to producing human growth hormone, an antibody or CC alpha-interferon in a duckweed plant culture or a duckweed nodule culture CC comprising culturing within a duckweed culture medium a duckweed plant CC culture or a duckweed nodule culture, where the duckweed plant or nodule CC culture is stably transformed to express the polypeptide, and collecting CC the polypeptide from the culture. Also included are producing human CC growth hormone (M1) in a duckweed plant culture or a duckweed nodule CC culture (comprising culturing within a duckweed culture medium a duckweed CC plant culture or a duckweed nodule culture, where the duckweed plant or CC nodule culture is stably transformed to express the human growth hormone, CC and where human growth hormone is expressed from a nucleotide sequence CC comprising a coding sequence for the human growth hormone and an operably CC linked coding sequence for a signal peptide that directs secretion of the CC human growth hormone into the culture medium and collecting the human CC growth hormone from the duckweed culture medium), producing an antibody CC (M2) in a duckweed plant culture or a duckweed nodule culture (comprising CC the culturing and collecting steps in M1, and collecting the antibody

XX 09-JUN-2004; 2004US-0579024P.
 PR (SCHD) SCHERING AG.
 XX
 PA Groetzbach G, Kapp J, Kuehl U, Schultheiss H, Sowade O;
 PI Stuerzebecher C;
 XX
 PI MPI: 2006-028347/03.
 DR N-PSDB; ABE63136.
 XX
 PT Composition, useful to treat e.g. cardiomyopathy, endothelial
 PT dysfunction, arrhythmia, dyspnea and palpitations, comprises an isolated
 PT interferon beta/interferon alpha or interferon beta/interferon alpha
 PT mutein.
 XX
 PS Disclosure; SEQ ID NO 8; 699p; English.
 XX
 CC The invention relates to a composition (A) having interferon-beta (IFN-
 CC beta) or interferon-alpha (IFN-alpha) activity. (A) comprises a
 CC therapeutically effective amount of an isolated IFN-beta, IFN-alpha, IFN-
 CC beta mutein or IFN-alpha mutein for treatment of cardiomyopathy and
 CC endothelial dysfunction, where the therapeutically effective amount is in
 CC a range from about 30 to 500 mcg. (A) is useful in the treatment of
 CC cardiomyopathy and endothelial dysfunction, such as chronic inflammatory
 CC cardiomyopathy, chronic viral cardiomyopathy, valvular cardiomyopathy,
 CC ischemic cardiomyopathy, and hypertensive cardiomyopathy. The present
 CC sequence represents human interferon-alpha-2 (IFN-alpha-2), which is
 CC given in the exemplification of the present invention.
 XX
 SQ Sequence 188 AA;
 Query Match 100.0%; Score 960; DB 10; Length 188;
 Best Local Similarity 100.0%; Pred. No. 3.8e-90;
 Matches 188; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 QY 1 MALTFALVALVLSCKSSGVGCDLPQTHSLGSRRITMLLAQMRISLFSCLKDHRD 60
 DB 1 MALTFALVALVLSCKSSGVGCDLPQTHSLGSRRITMLLAQMRISLFSCLKDHRD 60
 QY 61 PPOEFGNQFOKAETTPVLHEMIQQIFNLFTSYDSSAAMDETLDDKFTYELVQO 120
 DB 61 PPOEFGNQFOKAETTPVLHEMIQQIFNLFTSYDSSAAMDETLDDKFTYELVQO 120
 QY 121 CVIOGAVETPLMKEDSLIAVKRYQRTLYLKEKKYSCAENVRAEIMRFSLS 180
 DB 121 CVIOGAVETPLMKEDSLIAVKRYQRTLYLKEKKYSCAENVRAEIMRFSLS 180
 QY 181 OESLSRKE 188
 DB 181 OESLSRKE 188
 QY 181 QESLSRKE 188
 DB 181 QESLSRKE 188
 RESULT 15
 AEF69475
 ID AEF69475 standard; protein; 188 AA.
 AC AEF69475;
 XX
 DT 06-APR-2006 (first entry)
 XX
 DE Human interferon-alpha 2b.
 XX
 KW transgenic plant; interferon-alpha 2b; Antiinflammatory; Hepatotropic;
 KW Virucide; cytotoxic; Anti-HIV; Immunomodulator; hepatitis; cancer;
 KW protein engineering; immune modulation.
 XX
 OS Homo sapiens.
 XX
 XX Key Location/Qualifiers
 FH Peptide 1..23
 FT /label= signal_peptide
 FT Protein 24..188

FT /label= Mature_interferon-alpha_2b
 XX US2006024272-A1.
 PN 02-FEB-2006.
 XX
 PD 29-JUN-2005; 2005US-00172549.
 XX
 PF 29-JUL-2004; 2004US-0592479P.
 XX
 PR (IARG-) LARGE SCALE BIOLOGY CORP.
 XX
 PA Reini SJ, Pogue GP;
 PI MPI: 2006-135311/14.
 DR N-PSDB; ABE69474.
 XX
 PT Novel C-terminally truncated interferon polypeptide having enhanced
 PT biological activity, useful for treating interferon affected disorder
 PT such as viral hepatitis, hairy cell leukemia, Kaposi's sarcoma and immune
 PT disorders.
 XX
 PS Example 1; SEQ ID NO 23; 549p; English.
 XX
 CC The present sequence of human interferon-alpha 2b, related to the novel
 CC polypeptides of the current invention comprising human C-terminally
 CC truncated interferon (IFN) having enhanced biological activity, is
 CC encoded by a nucleotide insert ABE69474, cloned into the viral vector
 CC DN15. Type I interferons exhibit a wide range of biological activity,
 CC including antiviral, anti-proliferative, neoplastic and immunomodulatory
 CC activities. Interferon-alpha is produced by human leukocytes. Plant-
 CC produced IFN-alpha, fused to an extrinsic signal peptide and an
 CC endoplasmic reticulum retention signal, demonstrates anti-viral and anti-
 CC proliferative activities comparable to the bacterially produced protein
 CC but contains C-terminal truncations that predominantly occur during the
 CC processing of the plant material. The plant is Nicotiana benthamiana. To
 CC assemble human interferon-alpha 2b for expression in tobacco mosaic virus
 CC (TMV), an assembly reaction containing each of 16 oligonucleotides,
 CC ABE69455, ABE69456, ABE69457, ABE69458, ABE69459, ABE69460, ABE69461,
 CC ABE69462, ABE69463, ABE69464, ABE69465, ABE69466, ABE69467, ABE69468,
 CC ABE69469, and ABE69470, were added to a PCR reaction. The amplification
 CC product was re-amplified using the oligonucleotides ABE69455, and
 CC ABE69470. IFN-alpha 2a was amplified under the same conditions except
 CC that the oligonucleotide, ABE69457, was replaced by ABE69471. The
 CC amplified sequences were blunt-cloned into TOPO TA cloning vector and
 CC clones with the correct sequence were cloned into viral vector DN15.
 CC Infectious transcripts were synthesized in vitro and used to inoculate 23
 CC day post sow N. benthamiana plants. Systemically infected tissue was
 CC harvested at 10 days post inoculation and protein extracted by either
 CC homogenization or vacuum infiltration. C-terminally truncated interferon
 CC is useful for treating an interferon affected disorder, which involves
 CC administering the composition of the invention to a patient, where the
 CC interferon affected disorders are viral hepatitis, cancer such as hairy
 CC cell leukemia, Kaposi's sarcoma, chronic myelogenous leukemia and
 CC metastatic malignant melanoma, and immune disorders. C-terminally
 CC truncated interferon has enhanced biological activity such as anti-
 CC proliferative activity and improved processing qualities such as
 CC stability in crude extracts, yield and homogeneity at the C-terminus. C-
 CC terminally truncated interferon can be purified easily, and has enhanced
 CC anti-viral and immune modulatory activities.
 XX
 SQ Sequence 188 AA;
 Query Match 100.0%; Score 960; DB 10; Length 188;
 Best Local Similarity 100.0%; Pred. No. 3.8e-90;
 Matches 188; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 QY 1 MALTFALVALVLSCKSSGVGCDLPQTHSLGSRRITMLLAQMRISLFSCLKDHRD 60
 DB 1 MALTFALVALVLSCKSSGVGCDLPQTHSLGSRRITMLLAQMRISLFSCLKDHRD 60
 QY 61 PPOEFGNQFOKAETTPVLHEMIQQIFNLFTSYDSSAAMDETLDDKFTYELVQO 120
 DB 61 PPOEFGNQFOKAETTPVLHEMIQQIFNLFTSYDSSAAMDETLDDKFTYELVQO 120

Db	61	FPQEFNGQFQKAEIIPVLEHMIQOIFNLFSTKSSAAMDETLDDKFYTELYQQLNDLEA	120
Qy	121	CVIOGVGTETPLMKEDSILAVRKYFORITLYLKEKYSPCAMEVVRRAEIMRSPSLSTNL	180
Db	121	CVIOGVGTETPLMKEDSILAVRKYFORITLYLKEKYSPCAMEVVRRAEIMRSPSLSTNL	180
Qy	181	QESLSRKE	188
Db	181	QESLSRKE	188

Search completed: October 14, 2006, 07:56:45
Job time : 205 secs

GenCore version 5.1.9
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OM protein - protein search, using sw model

Run on: October 14, 2006, 07:57:02 ; Search time 41 seconds

(without alignments)
441.189 Million cell updates/sec

Title: US-10-653-350-1

Perfect score: 960
Sequence: 1 MALTFALVALLVLSCKSSC.....EIMSFSLSTNLQESLSRKE 188

Scoring table: BIOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 283416 seqs, 96216763 residues

Total number of hits satisfying chosen parameters: 283416

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%

Listing first 45 summaries

Database : PIR 80+*

1: p1r1:*
2: p1r2:*
3: p1r3:*
4: p1r4:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	957	99.7	188	1	interferon alpha-2
2	851	88.6	165	2	alpha 2 interferon
3	809.5	84.3	189	1	interferon alpha-5
4	808.5	84.2	189	1	interferon alpha-1
5	793.5	82.7	189	1	interferon alpha-1
6	781.5	81.4	189	2	interferon alpha-M
7	779.5	81.2	189	2	interferon precurs
8	772.5	80.5	189	1	interferon alpha-1
9	770.5	80.3	189	1	interferon alpha-1
10	768.5	80.1	189	2	interferon alpha-F
11	767.5	79.9	189	1	interferon alpha-1
12	766.5	79.8	189	1	interferon alpha-1
13	766.5	79.8	189	1	interferon alpha-1
14	760.5	79.2	189	1	interferon alpha-1
15	756.5	78.8	189	2	interferon alpha-1
16	754.5	78.6	189	2	interferon alpha-1
17	748.5	78.0	189	2	interferon alpha-1
18	744.5	77.6	189	1	interferon alpha-7
19	739.5	77.0	181	2	interferon alpha-2
20	732.5	76.3	189	1	interferon alpha-4
21	728.5	75.9	176	2	interferon alpha-1
22	722.5	75.3	184	1	interferon alpha-1
23	719.5	74.9	167	2	interferon alpha-G
24	718.5	74.8	184	1	interferon alpha-1
25	710.5	73.4	184	1	interferon alpha-1
26	704.5	73.0	184	1	interferon alpha-1
27	690.5	71.9	167	2	interferon alpha-F
28	678.5	70.7	167	2	interferon alpha-U
29	665.5	69.3	162	2	interferon alpha-B

30	640.5	66.7	189	2	interferon alpha-1
31	603.5	62.9	189	1	interferon alpha-1
32	596.5	62.1	189	1	interferon alpha-1
33	591.5	61.6	189	1	interferon alpha-1
34	590.5	61.5	189	1	interferon alpha-1
35	590.5	61.5	189	1	interferon alpha-1
36	588.5	61.3	189	1	interferon alpha-1
37	581.5	60.6	189	1	interferon alpha-1
38	580.5	60.5	190	2	interferon alpha-1
39	579.5	60.4	190	2	interferon alpha-1
40	572.5	59.6	190	1	interferon alpha-2
41	568.5	59.2	192	1	interferon alpha-1
42	561.5	58.5	190	2	interferon alpha-7
43	561.5	58.5	190	2	interferon alpha-B
44	554.5	57.8	189	1	interferon alpha-1
45	552.5	57.6	189	2	murine interferon

ALIGNMENTS

RESULT 1

1VHU2
interferon alpha-2 precursor (allele a) [validated] - human
N/Alternate names: IFN-alpha2; interferon alpha-3; interferon alpha-A; leukocyte interf
C/Species: Homo sapiens (man)
C/Date: 31-Oct-1980 #sequence revision 01-Sep-1981 #text change 09-Jul-2004
C/Accession: A93234; D93249; A93888; I59458; A94252; A25633; A01828; C61478; S15848; B4;
R/Goeddel, D.V.; Yelverton, E.; Ullrich, A.; Heynaker, H.U.; Mizzanti, G.; Holmes, W.;
S., M.; Familletti, P.C.; Pestka, S.
A/Title: Human leukocyte interferon produced by Escherichia coli is biologically active.
A/Reference number: A93234; MUID:8105322; PMID:6159538
A/Accession: A93234
A/Molecule type: DNA
A/Residues: 1-188 <GOE>
A/Cross-references: UNIPROT:P01563; UNIPARC:UPI000012D643; GB:V00544; NID:G32730; PIDN:
R/Lawn, R.M.; Gross, M.; Houck, C.M.; Franke, A.E.; Gray, P.V.; Goeddel, D.V.
Proc. Natl. Acad. Sci. U.S.A. 78, 5435-5439, 1981
A/Title: DNA sequence of a major human leukocyte interferon gene.
A/Reference number: A93888; MUID:82060261; PMID:6170983
A/Accession: A93888
A/Molecule type: mRNA
A/Residues: 1-188 <GO2>
A/Cross-references: UNIPARC:UPI000012D643; GB:V00549; NID:G32744; PIDN:CAA23810.1; PID:
A/Note: eight clones of interferon alpha clones were identified; this sequence is deri
R/Lawn, R.M.; Gross, M.; Houck, C.M.; Franke, A.E.; Gray, P.V.; Goeddel, D.V.
Proc. Natl. Acad. Sci. U.S.A. 78, 5435-5439, 1981
A/Title: Cloning of human leukocyte interferon cDNA and a strategy for its production;
R/Oliver, G.; Balbas, P.; Valle, F.; Soboron, X.; Bolivar, F.
Rev. Lat. Am. Microbiol. 27, 141-150, 1985
A/Title: Cloning of human leukocyte interferon cDNA and a strategy for its production;
A/Reference number: I59458; MUID:86069501; PMID:3906813
A/Accession: I59458
A/Status: preliminary; translated from GB/EMBL/DBJ
A/Molecule type: mRNA
A/Residues: 1-188 <RES>
A/Cross-references: UNIPARC:UPI000012D643; GB:M54866; NID:G186498; PIDN:AAA59181.1; PID:
R/Serrou, M.; Negata, S.; Weissmann, C.
Science 209, 1343-1347, 1980
A/Title: At least three human type alpha interferons: structure of alpha2.
A/Reference number: A94252; MUID:81015442; PMID:6158094
A/Accession: A94252
A/Molecule type: mRNA
A/Residues: 7-45, 'R', 'A', '47-188 <STR>
A/Cross-references: UNIPARC:UPI000002C6D4; GB:V00548; NID:G32740; PIDN:CAA23809.1; PID:

R:Ohara, O.; Terakawa, H.
FEBS Lett. 211, 78-82, 1987
A:Title: Anomalous behavior of human leukocyte interferon subtypes on polyacrylamide gel
A:Reference number: A91374; MUID:87105954; PMID:3803589
A:Accession: A25843
A:Status: nucleic acid sequence not shown; not compared with conceptual translation
A:Molecule type: mRNA
A:Residues: 'M', 24-188 <OH>
A:Cross-references: UNIPARC:UPI000002C5A3
A>Note: engineered sequence of mature form expressed in *Escherichia coli*
R:Allen, G.; Pantas, K.H.
Nature 287, 408-411, 1980
A:Title: A family of structural genes for human lymphoblastoid (leukocyte-type) interferon
A:Reference number: A01828; MUID:81052321; PMID:6155537
A:Accession: A01828
A:Molecule type: protein
A:Residues: 24-42, 'Z', 44-45, 'R', 47-74, 'A', 76, 'S', 78-98, 'X', 100-105, 'D', 107-109, 'P', 111-1
A:Cross-references: UNIPARC:UPI000017365A; UNIPARC:UPI000017365B
A>Note: residues at positions 83, 86, and 139 may be Ile or possibly Leu; those at posit
A>Note: 57-Arg, 75-Thr, 77-Pro, and 96-Glx were also found
R:Fukuda, S.; Ando, S.; Sanou, O.; Tanai, M.; Masaki, N.; Nakamura, K.I.; Ar
Lymphokine Res. 7, 175-185, 1988
A:Title: Simultaneous production of natural human tumor necrosis factor-alpha, -beta and
A:Reference number: A61478; MUID:88301617; PMID:2841543
A:Accession: C61478
A:Molecule type: protein
A:Residues: 24-45, 'R', 47-53 <FK>
A:Cross-references: UNIPARC:UPI000017365C
A:Experimental source: B-cell lymphoblastoid cel line BALL-1
R:Adolf, G.R.; Kalsner, I.; Ahorn, H.; Maurer-Fogy, I.; Cantell, K.
Biochem. J. 276, 511-518, 1991
A:Title: Natural human interferon-alpha-2 is O-glycosylated.
A:Reference number: S15848; MUID:91264809; PMID:2049076
A:Accession: S15848
A:Molecule type: protein
A:Residues: 24-45, 'R', 47-53 <BIO>
A:Cross-references: UNIPARC:UPI000017365C
A:Experimental source: leukocytes
R:Zoon, K.C.; Miller, D.; Belkist, J.; zur Nedden, D.; Enterline, J.C.; Nguyen, N.Y.; Hu,
J. Biol. Chem. 267, 15210-15216, 1992
A:Title: Purification and characterization of multiple components of human lymphoblastoid
A:Reference number: A42753; MUID:92340576; PMID:1634550
A:Accession: B42753
A:Molecule type: protein
A:Residues: 'X', 25-45, 'R', 47-51, 'X', 53-55, 'XX', 56-65 <ZOO>
A:Cross-references: UNIPARC:UPI000017365D
A:Experimental source: Sendai virus-induced Namalwa cells
R:Wetzel, R.
Nature 289, 606-607, 1981
A:Title: Assignment of the disulphide bonds of leukocyte interferon.
A:Reference number: A53244; MUID:81123083; PMID:6162107
A:Contents: annotation; disulfide bonds
R:Murgolo, N.J.; Windsor, W.T.; Hruza, A.; Reichert, P.; Tsaropoulos, A.; Baldwin, S.;
Protein 17, 62-74, 1993
A:Title: A homology model of human interferon alpha-2.
A:Reference number: A44748; MUID:94052087; PMID:8234245
A:Contents: annotation; theoretical model
R:Gewert, D.; Salom, C.; Barber, K.; Macbride, S.; Cooper, H.; Lewis, A.; Wood, J.; Crow
J. Interferon Res. 13, 227-231, 1993
A:Title: Analysis of interferon-alpha 2 sequences in human genomic DNA.
A:Reference number: 156312; MUID:93375201; PMID:8366289
A:Accession: 156312
A:Status: preliminary; translated from GB/EMBL/DBJ
A:Molecule type: DNA
A:Residues: 1-72 <REM>
A:Cross-references: UNIPARC:UPI00000701A9; GB:S64979; NID:9408874; PIDN:ADJ3960.1; PID:
R:Zhao, X.X.; Li, B.L.; Langer, J.A.; Van Riper, G.; Pestka, S.
Anal. Biochem. 178, 342-347, 1989
A:Title: Construction and phosphorylation of a fusion protein Hu-IFN-alpha A/gamma.
A:Reference number: 136908; MUID:89321045; PMID:2502045
A:Accession: 136909
A:Status: preliminary; translated from GB/EMBL/DBJ
A:Molecule type: DNA

A:Residues: 'M', 24-188 <RE2>
A:Cross-references: UNIPARC:UPI000002C5A3; EMBL:X15631; NID:922771; PIDN:CAA33638.1; PII
C:Genetics: IRNA2
A:Gene: GDB:IRNA2
A:Cross-references: GDB:136359; OMIM:147562
A:Map position: 9p22-9p22
C:Superfamily: interferon alpha
C:Keywords: antiviral; cytokine; glycoprotein; leukocyte
F:1-23/Domin: signal sequence #status predicted <SIG>
F:24-188/Product: interferon alpha-2 #status experimental <MAT>
F:24-121,52-161/Disulfide bonds: #status experimental
F:129/Binding site: carbohydrate (Thr) (covalent) #status experimental
Query Match 99.7%; Score 957; DB 1; Length 188;
Best Local Similarity 99.5%; Pred. No. 3,5e-81;
Matches 187; Conservative 1; Mismatches 0; Indels 0; Gaps 0;
QY 1 MALTFAALLVALLVLSCKSSGSGCDLPQTHSLGSRITMLLAQMRISLPSCLDRHDFG 60
DB 1 MALTFAALLVALLVLSCKSSGSGCDLPQTHSLGSRITMLLAQMRISLPSCLDRHDFG 60
QY 61 PPOEFNGOQKATTVVHEMIQOIFNLSTSDSSAAMETLLDKFYTELQOQNDLEA 120
DB 61 PPOEFNGOQKATTVVHEMIQOIFNLSTSDSSAAMETLLDKFYTELQOQNDLEA 120
QY 121 CVTQGVGTEPMLKEDSILAVRKYFORITLYLKEKYSPCAMEVVAEIMRSFSLSTNL 180
DB 121 CVTQGVGTEPMLKEDSILAVRKYFORITLYLKEKYSPCAMEVVAEIMRSFSLSTNL 180
QY 181 QESLRSKE 188
DB 181 QESLRSKE 188

RESULT 2
178570
alpha 2 interferon - human (fragment)
C:Species: Homo sapiens (man)
C:Date: 02-Aug-1996 #sequence_revision 02-Aug-1996 #text_change 09-Jul-2004
R:Weber, H.; Weisemann, C.
Nucleic Acids Res. 11, 5661-5669, 1983
A:Title: Formation of genes coding for hybrid proteins by recombination between related.
A:Reference number: 158213; MUID:83299241; PMID:6310510
A:Accession: 178570
A:Status: preliminary; translated from GB/EMBL/DBJ
A:Molecule type: DNA
A:Residues: 1-165 <RBS>
A:Cross-references: UNIPROT:P01563; UNIPARC:UPI0000049830; GB:M29883; NID:9184585; PIDN
C:Genetics: IRNA
A:Gene: IRNA
C:Superfamily: interferon alpha
Query Match 88.6%; Score 851; DB 2; Length 165;
Best Local Similarity 100.0%; Pred. No. 1.9e-71;
Matches 165; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY 24 CDLPQTHSLGSRITMLLAQMRISLPSCLDRHDFGPOEFNGOQKATTVVHEMI 83
DB 1 CDLPQTHSLGSRITMLLAQMRISLPSCLDRHDFGPOEFNGOQKATTVVHEMI 60
QY 84 QOIFNLSTSDSSAAMETLLDKFYTELQOQNDLEACVIGGVTEPMLKEDSILAVR 143
DB 61 QOIFNLSTSDSSAAMETLLDKFYTELQOQNDLEACVIGGVTEPMLKEDSILAVR 120
QY 144 KYFORITLYLKEKYSPCAMEVVAEIMRSFSLSTNLQESLRSKE 188
DB 121 KYFORITLYLKEKYSPCAMEVVAEIMRSFSLSTNLQESLRSKE 165
RESULT 3
178047
interferon alpha-5 precursor - human

N:Alternate names: interferon alpha-G
C:Species: Homo sapiens (man)
C:Date: 01-Sep-1991 #sequence_revision 29-Jan-1999 #text_change 09-Jul-2004
C:Accession: S437716, A01833
R:Henco, K.; Brosius, J.; Fujisawa, A.; Fujisawa, J.I.; Haynes, J.R.; Hochstadt, J.; Kov
J. Mol. Biol. 185, 227-260, 1985
A:Title: Structural relationship of human interferon alpha genes and pseudogenes.
A:Reference number: A92916; MUID:86037205; PMID:4057246
A:Accession: S437716
A:Molecule type: DNA
A:Residues: 1-189 <HEN>
A:Cross-references: UNIPROT:P01569; UNIPARC:UPI0000047760; EMBL:X02956; NID:932659; PIDN
R:Goeddel, D.V.; Leung, D.W.; Dull, T.J.; Gross, M.; Lawn, R.M.; McCandliss, R.; Seeburg
Nature 290, 20-26, 1981
A:Title: The structure of eight distinct cloned human leukocyte interferon cDNAs.
A:Accession: A01833
A:Molecule type: mRNA
A:Residues: 57-189 <GGE>
A:Cross-references: UNIPARC:UPI0000141F4A; GB:V00541; GB:J00213; NID:932718; PIDN:CAA238
A:Note: eight classes of interferon alpha clones were identified; this sequence is deriv
C:Genetics:
A:Gene: GDB:IFNA5
A:Cross-references: GDB:136362; OMIM:147565
A:Map position: 9p22-9p22
C:Superfamily: interferon alpha
C:Keywords: antiviral; cytokine; leukocyte
F:1-23/Domain: signal sequence #status predicted <SIG>
F:24-189/Product: interferon alpha-5 #status predicted <MAT>

Query Match 84.3%; Score 809.5; DB 1; Length 189;
Best Local Similarity 83.6%; Pred. No. 1.6e-67;
Matches 158; Conservative 11; Mismatches 19; Indels 1; Gaps 1;

QY 1 MALPFLALVALTVLSCKSSGVCGLPOTHSLGSRRTMLLAQRRIISFSCLDKRHDFG 60
DB 1 MALPFLMALVALNCKSTCSLGCDLPOTHSLSNRITLMIAOMGRISPSFCLDKRHD 60
QY 61 PPOEEF-GNPOFKKETITFVLEHMIQOIFNLSTKDDSSAAWDETLLDKRYTELQOINDLE 119
DB 61 PPOEFPDNGQYKQAIIVLHEMIQOTFNLSTKDDSSATWDETLLDKRYTELQOINDLE 120
QY 120 ACVQGGVVTPTPLMKESILAVRKYFORITLYLKEKKYSCCAWEVVAETIMRSFSISTN 179
DB 121 ACNMOEVEVEDTPIINNVDSILTVRKYFORITLYLLEKKYSPCAWEVVAETIMRSFSIS 180
QY 180 LQESLSRKE 188
DB 181 LQERLRKE 189

RESULT 4
IVHUI6
interferon alpha-I-6 precursor - human
C:Alternate names: HuIFN-alpha-I-6; Leif K; type I interferon
C:Species: Homo sapiens (man)
C:Date: 28-Dec-1987 #sequence_revision 28-Dec-1987 #text_change 09-Jul-2004
C:Accession: A23753
R:Henco, K.; Brosius, J.; Fujisawa, A.; Fujisawa, J.I.; Haynes, J.R.; Hochstadt, J.; Kov
J. Mol. Biol. 185, 227-260, 1985
A:Title: Structural relationship of human interferon alpha genes and pseudogenes.
A:Reference number: A92916; MUID:86037205; PMID:4057246
A:Accession: A23753
A:Molecule type: DNA
A:Residues: 1-189 <HEN>
A:Cross-references: UNIPROT:P05013; UNIPARC:UPI000004775F; GB:X02958; NID:932662; PIDN:C
C:Genetics:
A:Gene: GDB:IFNA6
A:Cross-references: GDB:136363; OMIM:147566
A:Map position: 9p22-9p22
C:Superfamily: interferon alpha
C:Keywords: antiviral
F:1-23/Domain: signal sequence #status predicted <SIG>

F:24-189/Product: interferon alpha-I-6 #status predicted <MAT>
F:24-122,52-162/Dienuflide bonds: #status predicted

```
Query Match      84.2%   Score 808.5;   DB 1;   Length 189;
Best Local Similarity 85.7%;   Pred. No.1.9e-67;
Matches 162;   Conservative 6;   Mismatches 20;   Indels 1;   Gaps 1;

Oy 1 MALPFAILVALVILVLSCKSSCSVGCDBLPQTHSLGSRRTLLMLAQRRISLSFSLCKDRHDFG 60
Db 1 MALPFAILMALVVLVLSCKSSCSJLDCDLPQTHSLGHRRTMLLAQRRIISLFSCLKDRHDFR 60

Oy 61 PPOEF-GNQPKAETPIPLHEMIQIIFNLFSFKDSSAANDETLLDKFYTELXOOLNLE 119
Db 61 PPOEFBNQPKAASIVLHEVLIQOTFNLFSFKDSSVANDERLLDKLYTELXOOLNLE 120

Oy 120 ACVIGVGTEPLPKMKEDSILAVRKYFORITLYLKEKESPCAMEVVAEIMRSPSLSTN 179
Db 121 ACVQGEVAVGCTPLNNEDSILAVRKYFORITLYLLEKKYSPCAEYVAEIMRSPSSRN 180

Oy 180 LOESIRSKK 188
Db 181 LOERLRKKE 189

RESULT 5
1VHU14
Interferon alpha-I-14 precursor [validated] - human
N.Alternate names: HuIFN-alpha-I-14; lambda-2-h; type I interferon
C.Species: Homo sapiens (man)
C.Date: 01-Sep-1981 #sequence revision 01-Sep-1981 #text change 09-Jul-2004
C.Accession: A92916; A94255; B93249; PC3203; A01833; C23753
R.Henao, K.; Brosius, J.; Fujisawa, A.; Fujisawa, J.I.; Haynes, J.R.; Hochstadt, J.; Kov
J.Mol. Biol. 185, 227-260, 1985
A.Title: Structural relationship of human interferon alpha genes and pseudogenes.
A.Reference number: A92916; MUID:86037205; PMID:4057246
A.Accession: A92916
A.Molecule type: DNA
A.Residues: 1-189 <EN>
A.Cross-references: UNIPROT:P01570; UNIPARC:UPI00000541D5; GB:X02959; NID:932650; PIDN:C
R.Lawn, R.M.; Adelman, J.; Dull, T.J.; Gross, M.; Goeddel, D.; Ullrich, A.
Science 212, 1159-1162, 1981
A.Title: DNA sequence of two closely linked human leukocyte interferon genes.
A.Reference number: A94255; MUID:81201124; PMID:6165082
A.Accession: A94255
A.Molecule type: DNA
A.Residues: 1-189 <LAN>
A.Cross-references: UNIPARC:UPI00000541D5; GB:V00533; GB:J00215; NID:932635; PIDN:CAA237
R.Gooddel, D.V.; Leung, D.W.; Dull, T.J.; Gross, M.; Lawn, R.M.; McCandliss, R.; Seeburg
Nature 290, 20-26, 1981
A.Title: The structure of eight distinct cloned human leukocyte interferon cDNAs.
A.Reference number: A93249; MUID:81148795; PMID:6163083
A.Accession: B93249
A.Molecule type: mRNA
A.Residues: 1-174, 'F', 176-189 <GCE>
A.Cross-references: UNIPARC:UPI0000047764; GB:V00542; GB:J00214; NID:932720; PIDN:CAA238
A.Note: a variant sequence differs from that shown in having 175-Phe, 182-Lys, and 184-G.
R.Shirono, H.; Koga, J.; Uemura, H.; Matsuo, A.
Bioest. Biotechnol. Biochem. 58, 1714-1715, 1994
A.Title: Identification of glycosylated subtypes of interferon-alpha produced by human 1
A.Reference number: PC3203; MUID:95036878; PMID:7765487
A.Accession: PC3203
A.Molecule type: protein
A.Residues: 'X', 25-43 <SH>
A.Cross-references: UNIPARC:UPI000017365E
A.Experimental source: leukocyte
C.Genetics:
A.Gene: GDB:IFNA14
A.Cross-references: GDB:136356; OMIM:147579
A.Map position: 9p22-9p22
C.Superfamily: interferon alpha
C.Keywords: antiviral; glycoprotein
F:1-33/Domain: signal sequence #status predicted <SIG>
F:24-189/Product: interferon alpha-I-14 #status experimental <MAT>
```

F:24-122,52-162/Disulfide bonds: #status predicted
F:25,95/Binding site: carbohydrate (asn) (covalent) #status predicted

Query Match 82.7%; Score 793.5; DB 1; Length 189;

Best Local Similarity 82.0%; Pred. No. 4.7e-66;
Matches 155; Conservative 16; Mismatches 17; Indels 1; Gaps 1;

QY 1 MALTFALLVALLVLSCKSSCGVCDLPQTHSLGSRRTIMLLAQMRRLSLFSCCLKDRHDFG 60
DB 1 MALPFLAMALVVLVLSCKSSCSLGNLSQTHSLNRRRTIMLMAQMRRLSPFSCCLKDRHDFE 60
QY 61 PPOEEF-GNFOFKAETIPVLHEMIQOIFNLFTSKDSSAAWDETLLDKFYELYQOQNDLE 119
DB 61 PPOEEFGNFOFKAQALSVLHEMIQOTFNLFTSKDSSAAWDETLLDKFYELYQOQNDLE 120
QY 120 ACVIQGVGTETPLMKEDSLAVKRYFORITLYLKEKKYSPCAWEVYRAEIMRSLSTN 179
DB 121 ACVIQGVGTETPLMNEDSLAVKRYFORITLYLMEKKYSPCAWEVYRAEIMRSLSTN 180
QY 180 LQESLSRKE 188
DB 181 LQKRLRRKD 189

RESULT 6

Interferon alpha-M1 precursor - human

C/Species: Homo sapiens (man)

C/Date: 02-Jul-1996 #sequence_revision 02-Jul-1996 #text_change 09-Jul-2004

C/Accession: I52347

R;Linane, A.W.; Beilharz, M.W.; McMullen, G.L.; Macreadie, I.G.; Murphy, M.; Niebet, I.
Biochem. Int. 8, 725-732, 1984

A/Title: Nucleotide sequence and expression in E. coli of a human interferon-alpha gene
A/Reference number: I52347; MUID:84307815; PMID:6089830

A/Accession: I52347

A/Status: Preliminary; translated from GB/EMBL/DBJ

A/Molecule type: mRNA

A/Residues: 1-189 <RES>

A/Cross-references: UNIPROT: P05014; UNIPARC: UP1000002BA77; GB:M27318; NID:g184617; PIDN:

A/Genes: IFNA

C/Superfamily: Interferon alpha

Query Match 81.4%; Score 781.5; DB 2; Length 189;

Best Local Similarity 81.5%; Pred. No. 6e-65;
Matches 154; Conservative 17; Mismatches 17; Indels 1; Gaps 1;

QY 1 MALTFALLVALLVLSCKSSCGVCDLPQTHSLGSRRTIMLLAQMRRLSLFSCCLKDRHDFG 60
DB 1 MALSFSLMAVVLVLSKSSCSLGCDDLPQTHSLGNRRALILIAQMRRLSHFSCLKDRHDFG 60
QY 61 PPOEEF-GNFOFKAETIPVLHEMIQOIFNLFTSKDSSAAWDETLLDKFYELYQOQNDLE 119
DB 61 PPOEEFGNFOFKAQALSVLHEMIQOTFNLFTSKDSSAAWDETLLDKFYELYQOQNDLE 120
QY 120 ACVIQGVGTETPLMKEDSLAVKRYFORITLYLKEKKYSPCAWEVYRAEIMRSLSTN 179
DB 121 ACVIQGVGTETPLMNEDSLAVKRYFORITLYLKEKKYSPCAWEVYRAEIMRSLSTN 180
QY 180 LQESLSRKE 188
DB 181 LQKRLRRKD 189

RESULT 7

Interferon precursor - human

C/Species: Homo sapiens (man)

C/Date: 02-Jul-1996 #sequence_revision 02-Jul-1996 #text_change 16-Jul-1999

C/Accession: I51970

R;Saveliev, V.I.; Zlochevsky, M.L.; Sorokin, A.V.; Naroditskaya, V.A.; Bolotin, A.P.; De
Antibiot. Med. Biotechnol. 31, 592-596, 1986

A/Title: Cloning and the determination of the nucleotide sequences in 2 genes of human

A/Reference number: I51970; MUID:87024453; PMID:3767336

A/Accession: I51970

A/Status: Preliminary; translated from GB/EMBL/DBJ

A/Molecule type: mRNA

A/Residues: 1-189 <RES>

A/Cross-references: UNIPARC: UP1000016A315; GB:M38289; NID:g186407; PIDN:AAA59165.1; PID:

A/Genes: IFNA

C/Superfamily: Interferon alpha

Query Match 81.2%; Score 779.5; DB 2; Length 189;

Best Local Similarity 81.0%; Pred. No. 9.2e-65;
Matches 153; Conservative 17; Mismatches 18; Indels 1; Gaps 1;

QY 1 MALTFALLVALLVLSCKSSCGVCDLPQTHSLGSRRTIMLLAQMRRLSLFSCCLKDRHDFG 60
DB 1 MALSFSLMAVVLVLSKSSCSLGCDDLPQTHSLGNRRALILIAQMRRLSPFSCCLKDRHDFE 60
QY 61 PPOEEF-GNFOFKAETIPVLHEMIQOIFNLFTSKDSSAAWDETLLDKFYELYQOQNDLE 119
DB 61 LPOEEFGNFOFKAQALSVLHEMIQOTFNLFTSKDSSAAWDETLLDKFYELYQOQNDLE 120
QY 120 ACVIQGVGTETPLMKEDSLAVKRYFORITLYLKEKKYSPCAWEVYRAEIMRSLSTN 179
DB 121 ACVIQGVGTETPLMNEDSLAVKRYFORITLYLKEKKYSPCAWEVYRAEIMRSLSTN 180
QY 180 LQESLSRKE 188
DB 181 LQKRLRRKD 189

RESULT 8

Interferon alpha-1 precursor - human

N/Alternate names: Interferon alpha-13; interferon alpha-D; interferon alpha-I-1

C/Species: Homo sapiens (man)

C/Date: 22-May-1981 #sequence_revision 01-Sep-1981 #text_change 09-Jul-2004

C/Accession: C23285; A91467; A93249; I58213; S43715; S41196; A01826

R;Capron, D.J.; Shepard, H.M.; Goeddel, D.V.
Mol. Cell. Biol. 5, 768-779, 1985

A/Title: Two distinct families of human and bovine interferon-alpha genes are coordinate

A/Reference number: A93070; MUID:85187974; PMID:2985969

A/Accession: C23285

A/Molecule type: DNA

A/Residues: 1-189 <CAP>

A/Cross-references: UNIPROT: P01562; UNIPARC: UP1000002C6D3

R;Mantel, N.; Schwarzein, M.; Streuli, M.; Panem, S.; Nagata, S.; Weissmann, C.
Gene 10, 1-10, 1980

A/Title: The nucleotide sequence of a cloned human leukocyte interferon cDNA.

A/Reference number: A91467; MUID:81005094; PMID:6157600

A/Accession: A91467

A/Molecule type: mRNA

A/Residues: 1-189 <MAN>

A/Cross-references: UNIPARC: UP1000002C6D3; GB:V00537; NID:g32711; PIDN:CAA23798.1; PID:9

R;Taniguchi, T.; Mantel, N.; Schwarzein, M.; Nagata, S.; Muramatsu, M.; Weissmann, C.
Nature 285, 547-549, 1980

A/Title: Human leukocyte and fibroblast interferons are structurally related.

A/Reference number: A93226; MUID:80254543; PMID:6157095

A/Accession: A93226

A/Molecule type: mRNA

A/Residues: 1-189 <TAN>

A/Cross-references: UNIPARC: UP1000002C6D3

R;Goeddel, D.V.; Leung, D.W.; Dull, T.J.; Gross, M.; Lawn, R.M.; McCandless, R.; Seeburg

Nature 290, 20-26, 1981

A/Title: The structure of eight distinct cloned human leukocyte interferon cDNAs.

A/Reference number: A93249; MUID:81148795; PMID:6163083

A/Accession: A93249

A/Molecule type: mRNA

A/Residues: 1-136, 'V', 138-189 <GOE>

A/Cross-references: UNIPARC: UP10000141F49; GB:V00538; NID:g32713; PIDN:CAA23799.1; PID:9

A/Note: eight classes of interferon alpha clones were identified; this sequence is deriv

R;Weber, H.; Weissmann, C.

Nucleic Acids Res. 11, 5661-5669, 1983


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IVHU16
interferon alpha-I-16 precursor - human
N:Alternate names: HuIFN-alpha-I-16; Interferon alpha-I-WA; type I interferon
C:Species: Homo sapiens (man)
C>Date: 28-Dec-1987 #sequence_revision 28-Dec-1987 #text_change 09-Jul-2004
C:Accession: G23753; A22068; I73334
J:Henric, K.; Brosius, J.; Fujisawa, A.; Fujisawa, J.I.; Haynes, J.R.; Hochstadt, J.; Kov
J. Mol. Biol. 185, 227-260, 1985
A:Title: Structural relationship of human interferon alpha genes and pseudogenes.
A:Reference number: A52916; MUID:86037205; PMID:4057246
A:Accession: A22068
A:Cross-references: UNIPROT:P05015; UNIPARC:UPI0000047763; GB:X02957; NID:932653; PIDN:C
A:Residues: 1-189 <HE>
A:Molecule type: DNA
A:Residues: 1-189 <HE>
A:Cross-references: UNIPROT:P05015; UNIPARC:UPI0000047763; GB:X02957; NID:932653; PIDN:C
R:Torczynski, R.M.; Pike, M.; Bollon, A.P.
Proc. Natl. Acad. Sci. U.S.A. 81, 6451-6455, 1984
A:Title: Human genomic library screened with 17-base oligonucleotide probes yields a nov
A:Reference number: A22068; MUID:85038533; PMID:6387705
A:Accession: A22068
A:Molecule type: DNA
A:Residues: 1-189 <TOR>
A:Cross-references: UNIPARC:UPI0000047763; GB:X02055; NID:9184620; PIDN:AA52727.1; PID
R:Gren, E.; Barzin, V.M.; Jansone, I.; Tsimanis, A.; Vishnevsky, Y.; Apsalons, U.
J. Interferon Res. 4, 609-617, 1984
A:Title: Novel human leukocyte interferon subtype and structural comparison of alpha int
A:Reference number: 156313; MUID:85056523; PMID:6548765
A:Accession: I73334
A:Status: preliminary; translated from GB/EMBL/DBJ
A:Molecule type: mRNA
A:Residues: 1-189 <RES>
A:Cross-references: UNIPARC:UPI0000047763; GB:M28585; NID:9184643; PIDN:AAA56042.1; PID
C:Genetics:
A:Gene: GDB:IFNA16
A:Cross-references: GDB:136357; OMIM:147560
A:Map position: 9p22-9p22
A:Intons: #status absent
C:Superfamily: Interferon alpha
C:Keywords: antiviral; cytokine; leukocyte
F:1-23/Domain: signal sequence #status predicted <SIG>
F:24-189/Product: interferon alpha-I-16 #status predicted <MAT>
F:24-122,52-162/Disulfide bonds: #status predicted

Query Match 79.9%; Score 767.5; DB 1; Length 189;
Best Local Similarity 81.0%; Pred. No. 1.2e-63;
Matches 153; Conservative 12; Mismatches 23; Indels 1; Gaps 1;

QY 1 MALTPALLVALLVLSCKSSGVGCDLPQTHSLGSRRTMLLAQMRRLISFSCLDKRDHDFG 60
DB 1 MALSFSLMAVILVLSYKISGLGCDLPQTHSLGNRRALITLQWGRISHFSCLDKRDYDFG 60
QY 61 PPOSEF-GNOFOKRETPVLEHMQOIFNLFTSTQSSAAMDETLIDKYTELXOOLNDLE 119
DB 61 PPOSEF-GNOFOKRETPVLEHMQOIFNLFTSTQSSAAMDETLIDKYTELXOOLNDLE 120
QY 120 ACVQGVGVETPLMKEDSILAVRKYFORITLYLEKXKSPCAMEVYRAEIMRSFSISTN 179
DB 121 ACVQGVGVETPLMKEDSILAVRKYFORITLYLEKXKSPCAMEVYRAEIMRSFSISTN 180
QY 180 LQESLSRKE 188
DB 181 LQKGLRRKD 189

RESULT 12
IVHU15
interferon alpha-5 precursor - human
C:Species: Homo sapiens (man)
C>Date: 01-Sep-1981 #sequence_revision 01-Sep-1981 #text_change 09-Jul-2004
C:Accession: A60937; A01830
R:Bartholomew, C.; Windass, J.D.
J. Interferon Res. 9, 407-417, 1989
A:Title: Identification of a functional allele of a human interferon-alpha gene previous
A:Reference number: A60937; MUID:89328015; PMID:2526839

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A:Accession: A60937
A:Molecule type: DNA
A:Residues: 1-189 <BAR>
A:Cross-references: UNIPROT:P01566; UNIPARC:UPI0000047765
A:Note: This genomic sequence, SMIT11.1A, encodes a functional allele for alpha interfe
ence and is a pseudogene
R:Goeddel, D.V.; Leung, D.W.; Dull, T.J.; Gross, M.; Lawn, R.M.; McCandliss, R.; Seebur
Nature 290, 20-26, 1981
A:Title: The structure of eight distinct cloned human leukocyte interferon cDNAs.
A:Reference number: A93249; MUID:81148795; PMID:6153083
A:Accession: A01830
A:Cross-references: UNIPARC:UPI0000047765; GB:V00551; GB:J00209; NID:932748; PIDN:CAA231
A:Residues: 1-189 <GOE>
A:Molecule type: mRNA
A:Residues: 1-189 <GOE>
A:Cross-references: UNIPARC:UPI0000047765; GB:V00551; GB:J00209; NID:932748; PIDN:CAA231
A:Note: eight classes of interferon alpha clones were identified; this sequence is deriv
C:Genetics:
A:Gene: GDB:IFNA5
A:Cross-references: GDB:136362; OMIM:147565
A:Map position: 9p22-9p22
C:Superfamily: Interferon alpha
C:Keywords: leukocyte
F:1-23/Domain: signal sequence #status predicted <SIG>
F:24-189/Product: interferon alpha-5 #status predicted <MAT>
F:24-122,52-162/Disulfide bonds: #status predicted

Query Match 79.8%; Score 766.5; DB 1; Length 189;
Best Local Similarity 80.4%; Pred. No. 1.5e-63;
Matches 152; Conservative 16; Mismatches 20; Indels 1; Gaps 1;

QY 1 MALTPALLVALLVLSCKSSGVGCDLPQTHSLGSRRTMLLAQMRRLISFSCLDKRDHDFG 60
DB 1 MALSFSLMAVILVLSYKISGLGCDLPQTHSLGNRRALITLQWGRISHFSCLDKRDYDFG 60
QY 61 PPOSEF-GNOFOKRETPVLEHMQOIFNLFTSTQSSAAMDETLIDKYTELXOOLNDLE 119
DB 61 PPOSEF-GNOFOKRETPVLEHMQOIFNLFTSTQSSAAMDETLIDKYTELXOOLNDLE 120
QY 120 ACVQGVGVETPLMKEDSILAVRKYFORITLYLEKXKSPCAMEVYRAEIMRSFSISTN 179
DB 121 ACVQGVGVETPLMKEDSILAVRKYFORITLYLEKXKSPCAMEVYRAEIMRSFSISTN 180
QY 180 LQESLSRKE 188
DB 181 LQKGLRRKD 189

RESULT 13
IVHU17
interferon alpha-I-F precursor - human
N:Alternate names: HuIFN-alpha-I-F; Leif F; type I interferon
C:Species: Homo sapiens (man)
C>Date: 01-Sep-1981 #sequence_revision 01-Sep-1981 #text_change 09-Jul-2004
C:Accession: A01832
R:Goeddel, D.V.; Leung, D.W.; Dull, T.J.; Gross, M.; Lawn, R.M.; McCandliss, R.; Seebur
Nature 290, 20-26, 1981
A:Title: The structure of eight distinct cloned human leukocyte interferon cDNAs.
A:Reference number: A93249; MUID:81148795; PMID:6153083
A:Accession: A01832
A:Molecule type: mRNA
A:Residues: 1-189 <GOE>
A:Cross-references: UNIPROT:P01566; UNIPARC:UPI0000047762; GB:V00540; GB:J00212; NID:93
A:Note: eight classes of interferon alpha clones were identified; this sequence is deriv
C:Genetics:
A:Gene: GDB:IFN1@
A:Cross-references: GDB:119328; OMIM:147660
A:Map position: 9p22-9p22
C:Superfamily: Interferon alpha
C:Keywords: antiviral
F:1-23/Domain: signal sequence #status predicted <SIG>
F:24-189/Product: interferon alpha-I-F #status predicted <MAT>
F:24-122,52-162/Disulfide bonds: #status predicted

Query Match 79.8%; Score 766.5; DB 1; Length 189;

```


[illegible]

RESULT 14

interferon alpha-17 precursor - human
N/Alternate names: interferon alpha-9; interferon alpha-1'
C/Species: Homo sapiens (man)
C/Date: 01-Sep-1991 #sequence_revision 01-Sep-1991 #text_change 09-Jul-2004
C/Accession: A01835; A22255; C42753
R/Lam, R.M.; Adelman, J.; Dull, T.J.; Gross, M.; Goeddel, D.; Ullrich, A.
Science 212, 1159-1162, 1981
A/Title: DNA sequence of two closely linked human leukocyte interferon genes.
A/Reference number: A94255; MUID:81201124; PMID:6165082
A/Accession: A01835
A/Molecule type: DNA
A/Residues: 1-189 <LAM>
A/Cross-references: UNIPROT:P01571; UNIPARC:UPI000041F4B; GB:J00216; GB:V00532; NID:G322
R/Mizoguchi, J.; Pilth, P.M.; Raj, N.B.K.
DNA 4, 221-232, 1985
A/Title: Efficient expression in *Escherichia coli* of two species of human interferon- α p
A/Reference number: A22255; MUID:85229953; PMID:3891272
A/Accession: A22255
A/Molecule type: mRNA
A/Residues: 1-56, 'H', 58-189 <MI2>
A/Cross-references: UNIPARC:UPI0000052AF9; GB:M11026; NID:G184612; PIDN:AA52725.1; PID:
R/Zoon, K.C.; Miller, D.; Bekisz, J.; zur Nedden, D.; Enterline, J.C.; Nguyen, N.Y.; Hu,
J. Biol. Chem. 267, 15210-15216, 1992
A/Title: Purification and characterization of multiple components of human lymphoblastoid
A/Reference number: A42753; MUID:92340576; PMID:1634550
A/Accession: C42753
A/Molecule type: Protein
A/Residues: 'X', 25-50, 'XX', 53-56 <ZOO>
A/Cross-references: UNIPARC:UPI000017365F
C/Genetics:
A/Gene: GDB:IFNA17
A/Cross-references: GDB:136358; OMTM:147563
A/Map position: 9p22-9p22
C/Superfamily: interferon alpha
C/Keywords: leukocyte

Query Match	79.2%	Score 760.5	DB 1	length 189
Best Local Similarity	79.9%	Pred No. 5.3e-63		
Matches 151	Conservative 1	Mismatches 20	Indels 1	Gaps 1

[illegible]

Qy	120	ACVIGCVGTEPLPKKEDSI	LAIVRYFORITLYLKEKYS	SCAMEVRAEIMRFS	SLSTN	175
Db	121	ACVIGVGMEETPLANNEDSI	LAIVRYFORITLYLKEKYS	SCAMEVRAEIMRFS	SLSTN	180
Qy	180	LOESLSKE	188			
Db	181	LOKILRRKD	189			

RESULT 15

IFN-alpha-N-protein - human
 C.Species: Homo sapiens (man)
 C.Date: 04-Oct-1996 #sequence_revision 04-Oct-1996 #text_change 09-Jul-2004
 C.Accession: J37584
 R.Given: Berrington, V.M.; Tsimanis, A.Y.; Apsalou, U.R.; Vishnevskii, Y.I.; Yansone, I.
 A.; Lozha, V.P.; Kavanan, V.M.; Efimov, V.A.; Sverdlov, E.D.
 Dokl. Biochem. 269, 91-95, 1983
 A.Title: A new type of leukocytic interferon.
 A.Reference number: J37583
 A.Reference number: J37584
 A.Status: preliminary; translated from GB/EMBL/DBJ
 A.Molecule type: mRNA
 A.Residues: 1-189 <RES>
 A.Cross-references: UNIPROT:Q14618; UNIPARC:UP10000072A39; EMBL:X00140; NID:g372726; PDB:
 A.Superfamily: Interferon alpha

Query Match : 78.8%; Score 756.5; DB 2; Length 189;

Matches	151;	Conservative	12;	Mismatches	25;	Indels	1;	Gaps	1
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[illegible]

Search completed: October 14, 2006, 08:02:36
Job time : 42 secs

GenCore version 5.1.9
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OM protein - protein search, using sw model

Run on: October 14, 2006, 07:53:27 ; Search time 301 Seconds

(without alignments)
577.751 Million cell updates/sec

Title: US-10-653-350-1

Sequence: 1 MALTFAVLVALVLSCKSSC.....EIMRSPSLSTNIQESLRKXK 188

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 2849598 seqs, 925015592 residues

Total number of hits satisfying chosen parameters: 2849598

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database : Uniprot_7.2.*

1: uniprot_sprot.*

2: uniprot_trembl.*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	960	100.0	188	2 Q6DJX8_HUMAN	Q6DJX8 homo sapien
2	957	99.7	188	1 IFNA2_HUMAN	P01563 homo sapien
3	851	88.6	166	2 Q86UP4_HUMAN	Q86UP4 homo sapien
4	814.5	84.8	189	2 Q95I78_SAGE	Q95I78 saguinus oe
5	809.5	84.3	189	1 IFNA5_HUMAN	P01569 homo sapien
6	809.5	84.3	189	2 Q52LX3_HUMAN	Q52LX3 homo sapien
7	808.5	84.2	189	1 IFNA6_HUMAN	P05013 homo sapien
8	808.5	84.2	189	2 Q5VYQ1_HUMAN	Q5VYQ1 homo sapien
9	793.5	82.7	189	1 IFNA14_HUMAN	P01570 homo sapien
10	793.5	82.7	189	2 Q5VZ56_HUMAN	Q5VZ56 homo sapien
11	789.5	81.2	189	2 Q95I77_SAGE	Q95I77 saguinus oe
12	786	81.4	189	2 Q6QNB6_HUMAN	Q6QNB6 homo sapien
13	781.5	81.4	189	1 IFNA4_HUMAN	P05015 homo sapien
14	781.5	81.4	189	2 Q5VYI5_HUMAN	Q5VYI5 homo sapien
15	776.5	80.9	189	2 Q52LX8_HUMAN	Q52LX8 homo sapien
16	772.5	80.5	189	1 IFNA1_HUMAN	P01562 homo sapien
17	772.5	80.5	189	2 Q2MLI8_HUMAN	Q2MLI8 homo sapien
18	770.5	80.3	189	1 IFNA17_HUMAN	P01571 homo sapien
19	770.5	80.3	189	2 Q5VZ53_HUMAN	Q5VZ53 homo sapien
20	768.5	80.1	189	1 IFNA21_HUMAN	P01568 homo sapien
21	768.5	80.1	189	2 Q5VWD1_HUMAN	Q5VWD1 homo sapien
22	767.5	79.9	189	1 IFNA16_HUMAN	P05015 homo sapien
23	767.5	79.9	189	2 Q5VYI2_HUMAN	Q5VYI2 homo sapien
24	766.5	79.8	189	1 IFNA10_HUMAN	P01566 homo sapien
25	766.5	79.8	189	2 Q5VYI3_HUMAN	Q5VYI3 homo sapien
26	760.5	79.2	174	2 Q8WU71_SAIISC	Q8WU71 saimiri sci
27	756.5	78.8	189	2 Q146I8_HUMAN	Q146I8 homo sapien
28	754.5	78.6	189	1 IFNA8_HUMAN	P32881 homo sapien
29	754.5	78.6	189	2 Q5VYQ3_HUMAN	Q5VYQ3 homo sapien
30	744.5	77.6	189	1 IFNA7_HUMAN	P01567 homo sapien
31	744.5	77.6	189	2 Q5VYI4_HUMAN	Q5VYI4 homo sapien

32	739.5	77.0	181	2 Q14608_HUMAN	Q14608 homo sapien
33	722.5	75.3	184	1 IFNA2_HORSE	P05006 equus caball
34	718.5	74.8	184	1 IFNA2_HORSE	P05004 equus caball
35	710.5	74.0	184	1 IFNA3_HORSE	P05005 equus caball
36	704.5	73.4	184	1 IFNA1_HORSE	P05003 equus caball
37	677.5	70.6	166	2 Q8WZ68_HUMAN	Q8WZ68 homo sapien
38	640.5	66.7	189	1 IFNA1_PIG	P49879 sus scrofa
39	637.5	66.4	189	2 Q304W3_PIG	Q304W3 sus scrofa
40	637.5	66.4	189	2 Q6VAB8_PIG	Q6VAB8 sus scrofa
41	631.5	65.8	189	2 Q304V9_PIG	Q304V9 sus scrofa
42	625.5	65.2	181	2 Q304W4_PIG	Q304W4 sus scrofa
43	622.5	64.8	189	2 Q304W5_PIG	Q304W5 sus scrofa
44	616.5	64.2	181	2 Q304W0_PIG	Q304W0 sus scrofa
45	611.5	63.7	189	2 Q68I05_PIG	Q68I05 sus scrofa

ALIGNMENTS

RESULT 1
Q6DJX8_HUMAN PRELIMINARY: PRT; 188 AA.
ID Q6DJX8_HUMAN
AC Q6DJX8;
DT 10-MAY-2005, integrated into UniProtKB/TrEMBL.
DT 10-MAY-2005, sequence version 1.
DE 21-FEB-2006, entry version 13.
DE Interferon, alpha 2 (IFNA2 protein).
GN Name=IFNA2; ORFNames=Rpl1-354P17.2-001;
OS Homo sapiens (Human).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini; Homnidae;
OC Homo.
OX NCBI_TaxID=9606;
RN [1]
RP NUCLEOTIDE SEQUENCE.
RC TISSUE=PCR rescued clones, and Pooled tissue;
RX MEDLINE=22388257; PubMed=12477932; DOI=10.1073/pnas.242603899;
RA Strausberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,
RA Klausner R.D., Collins F.S., Wagner L., Shenmen C.M., Schlier G.D.,
RA Altschul S.F., Zeeberg B., Buetow K.H., Scheffer C.F., Bhat N.K.,
RA Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,
RA Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,
RA Stapleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E.,
RA Brownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C.,
RA Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullaly S.J.,
RA Bosak S.A., McKernan P.J., McKernan K.J., Malek J.A., Gunaratne P.H.,
RA Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,
RA Villalón D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,
RA Fahy J., Helton E., Kettelman M., Madan A., Rodriguez S., Sanchez A.,
RA Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,
RA Blakesley R.W., Touchman J.W., Green E.D., Dickson M.C.,
RA Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M.,
RA Butcherfield J.S.N., Krzywinski M.I., Skalska U., Smailus D.E.,
RA Scherch A., Schein J.E., Jones S.J.W., Marra M.A.,
RT "Generation and initial analysis of more than 15,000 full-length human
RT and mouse cDNA sequences.";
RL Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903 (2002).
RN [2]
RP NUCLEOTIDE SEQUENCE.
RC TISSUE=Pooled tissue;
RG NIH MGC Project;
RL Submitted (JUN-2004) to the EMBL/Genbank/DBJ databases.
RN [3]
RP NUCLEOTIDE SEQUENCE.
RA Halleck A., Ebert L., Moundinya M., Schick M., Eisenstein S.,
RA Neubert P., Kasting K., Schatten R., Shen B., Henze S., Mar W.,
RA Korn B., Zuo D., Hu Y., Labaer J.,
RL Submitted (JUN-2004) to the EMBL/Genbank/DBJ databases.
RN [4]
RP NUCLEOTIDE SEQUENCE.
RA Beasley H.,
RL Submitted (MAY-2005) to the EMBL/Genbank/DBJ databases.
RN [5]

RP NUCLEOTIDE SEQUENCE.
 RC TISSUE-PCR rescued clones;
 RG NIH MGC Project;
 RL Submitted (SEP-2005) to the EMBL/GenBank/DBJ databases.
 CC -1- SUBCELLULAR LOCATION: Secreted protein (by similarity).
 CC Copyrighted under the UniProt Consortium, see <http://www.uniprot.org/terms>
 CC Distributed under the Creative Commons Attribution-NoDerivs license
 CC -----
 DR EMBL: BC074937.1; AH74937.1; -; mRNA.
 DR EMBL: CR541921; CAG46719.1; -; mRNA.
 DR EMBL: AL353732; CAH72906.1; -; Genomic DNA.
 DR EMBL: BC104164; AA104165.1; -; mRNA.
 DR EMBL: BC074936; AAH74936.1; -; mRNA.
 DR EMBL: BC104163; AA104164.1; -; mRNA.
 DR SMR: Q6DJX8; 24-188.
 DR Ensemble; ENSG00000188379; Homo sapiens.
 DR GO: GO:0005615; Cytoplasmic space; IEA.
 DR GO: GO:0005126; Plasmalemma/interferon-class (D200-domain. . .; IEA.
 DR GO: GO:0006952; P.defense response; IEA.
 DR GO: GO:0006915; P.response to virus; IEA.
 DR InterPro: IPR000471; Interferon_abd.
 DR PANTHER: PTHR11691; Interferon_abd; 1.
 DR Pfam: PF00143; Interferon; 1.
 DR PRINTS: PR00266; INTERFERONAB.
 DR SMART: SM00076; Ipad; 1.
 DR PROSITE: PS00252; INTERFERON_A_B_D; 1.
 DR Antiviral defense; Cytokine.
 KW Antiviral defense; Cytokine.
 SQ SEQUENCE 188 AA; 21578 MW; 9BA221D2BFB421D CRC64;
 Query Match 100.0%; Score 960; DB 2; Length 188;
 Best Local Similarity 100.0%; Pred. No. 6; 5e-78;
 Matches 188; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 QY 1 MALTFLLVALLVLSKSSCSVCCDIPQTHSLGSRRTMLLMQMRISLPSCLKRHNDG 60
 DB 1 MALTFLLVALLVLSKSSCSVCCDIPQTHSLGSRRTMLLMQMRISLPSCLKRHNDG 60
 QY 61 FOEEFGNFOKAETIPVLHEMIQQLFNFSTKDSAAWDETLDKFYELVQQLNDLBA 120
 DB 61 FOEEFGNFOKAETIPVLHEMIQQLFNFSTKDSAAWDETLDKFYELVQQLNDLBA 120
 QY 121 CVIQGVGTETPLMKEDSILAVKRYFORITLYLKEKYSPCAEVVRVRAIMRSFSLSTNL 180
 DB 121 CVIQGVGTETPLMKEDSILAVKRYFORITLYLKEKYSPCAEVVRVRAIMRSFSLSTNL 180
 QY 181 QESLSRSKE 188
 DB 181 QESLSRSKE 188
 DB 181 QESLSRSKE 188
 RESULT 2
 ID IFNA2_HUMAN STANDARD; PRT; 188 AA.
 AC P01563; P01564; Q14606; Q96K16;
 DT 21-JUL-1986, integrated into UniProtKB/Swiss-Prot.
 DT 01-JUL-1986, sequence version 1.
 DT 07-FEB-2006, entry version 67.
 DE Interferon alpha-2 precursor (Interferon alpha-A) (Ileif A).
 GN Name=IFNA2;
 OS Homo sapiens (Human).
 OC Eukaryota; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini; Homidae;
 OC Homo.
 OC NCBI_TaxID=9606;
 RN [1]
 RP NUCLEOTIDE SEQUENCE.
 RX MEDLINE=81052322; PubMed=6159538;
 RA Goeddel D.V., Yelverton E., Ulirsch A., Heyneker H.L., Miozzari G.,
 RA Holmes W., Seeburg P.H., Dull T.J., May L., Stebbing N., Crea R.,
 RA Maeda S., McCandless R., Sloma A., Tabor J.M., Gross M.,
 RA Familletti P.C., Pestka S.,
 RT "Human leukocyte interferon produced by E. coli is biologically

RT active.";
 RL Nature 287:411-416(1980).
 RN [2]
 RP NUCLEOTIDE SEQUENCE.
 RX MEDLINE=81148795; PubMed=6163083;
 RA Goeddel D.V., Leung D.W., Dull T.J., Gross M., Lawn R.M.,
 RA McCandless R., Seeburg P.H., Ulirsch A., Yelverton E., Gray P.W.,
 RT "The structure of eight distinct cloned human leukocyte interferon
 RT cDNAs.";
 RL Nature 290:20-26(1981).
 RN [3]
 RP NUCLEOTIDE SEQUENCE.
 RX MEDLINE=82060261; PubMed=6170983;
 RA Lawn R.M., Gross M., Houck C.M., Franke A.E., Gray P.V., Goeddel D.V.,
 RT "DNA sequence of a major human leukocyte interferon gene.";
 RT Proc. Natl. Acad. Sci. U.S.A. 78:5435-5439(1981).
 RN [4]
 RP NUCLEOTIDE SEQUENCE.
 RC TISSUE=bone marrow tumor;
 RX MEDLINE=86069501; PubMed=3906813;
 RA Oliver G., Balbas P., Valle F., Soberon X., Bolivar F.,
 RT "Cloning of human leukocyte interferon cDNA and a strategy for its
 RT production in E. coli.";
 RL Rev. Latinoam. Microbiol. 27:141-150(1985).
 RN [5]
 RP NUCLEOTIDE SEQUENCE.
 RC TISSUE=placenta;
 RX MEDLINE=98357449; PubMed=9694076;
 RA Austerly E., Baginis C., Carducci N., Maroc C., Birg F., Dubreuil P.,
 RA Mannoni P., Chabannon C.,
 RT "A defective retroviral vector encoding human interferon alpha 2 can
 RT transduce human leukemic cell lines.";
 RL Cancer Gene Ther. 5:247-256(1998).
 RN [6]
 RP NUCLEOTIDE SEQUENCE OF 7-188.
 RX MEDLINE=81015442; PubMed=5158094;
 RA Strulli M., Nagata S., Weissmann C.,
 RT "At least three human type alpha interferons: structure of alpha 2.";
 RL Science 209:1343-1347(1980).
 RN [7]
 RP NUCLEOTIDE SEQUENCE OF 24-188.
 RX MEDLINE=8329241; PubMed=6310510;
 RA Weber H., Weissmann C.,
 RT "Formation of genes coding for hybrid proteins by recombination
 RT between related, cloned genes in E. coli.";
 RL Nucleic Acids Res. 11:5661-5669(1983).
 RN [8]
 RP PROTEIN SEQUENCE OF 24-112 AND 136-188.
 RX MEDLINE=81052321; PubMed=6159537;
 RA Allen G., Fantes K.H.,
 RT "A family of structural genes for human lymphoblastoid (leukocyte-
 RT type) interferon.";
 RL Nature 287:408-411(1980).
 RN [9]
 RP PROTEIN SEQUENCE OF 24-58.
 RX MEDLINE=98087498; PubMed=9425112;
 RA Nymen T.A., Toeloe H., Parkkinen J., Kalkkinen N.,
 RT "Identification of nine interferon-alpha subtypes produced by Sendai
 RT virus-induced human peripheral blood leucocytes.";
 RL Biochem. J. 329:295-302(1998).
 RN [10]
 RP DISULFIDE BONDS.
 RX MEDLINE=81123083; PubMed=6162107;
 RA Wetzel R.,
 RT "Assignment of the disulphide bonds of leukocyte interferon.";
 RL Nature 289:606-607(1981).
 RN [11]
 RP CARBOHYDRATE-LINKAGE SITE THR-129, AND VARIANTS ALPHA-2B AND ALPHA-2C.
 RX MEDLINE=91264809; PubMed=2049076;
 RA Adolf G.R., Kalsner I., Ahorn H., Maurer-Fogy I., Cantell K.,
 RT "Natural human interferon-alpha 2 is O-glycosylated.";
 RL Biochem. J. 276:511-518(1991).
 RN [12]

RP POLYMORPHISM.
 RX MEDLINE=95533982; PubMed=7627809;
 RA Lee N., Ni D., Bissette R., Chou M., Hussain M., Gill D.S.,
 RT Liao M.-J., Teeta D.,
 RL "Interferon-alpha 2 variants in the human genome."
 J. Interferon Cytokine Res. 15:341-349(1995).
 RN [13]
 RP 3D-STRUCTURE MODELING.
 RX MEDLINE=94052087; PubMed=8234245; DOI=10.1002/prot.340170109;
 RA Murugolo N.J., Windsor W.T., Hruza A., Reichert P., Tsardopoulos A.,
 RT Baldwin S., Huang B., Pramanik B., Balick S., Trocta P.P.,
 RL "A homology model of human interferon alpha-2."
 Proteins 17:62-74(1993).
 RN [14]
 RP X-RAY CRYSTALLOGRAPHY (2.9 ANGSTROMS).
 RX MEDLINE=97148339; PubMed=8994971; DOI=10.1016/S0969-2126(96)00152-9;
 RA Radhakrishnan R., Walter L.J., Hruza A., Reichert P., Trocta P.P.,
 RT Nagabhushan T.L., Walter M.R.,
 RL "Zinc mediated dimer of human interferon-alpha 2b revealed by X-ray
 crystallography."
 Structure 4:1453-1463(1996).
 RN [15]
 RP STRUCTURE BY NMR.
 RX MEDLINE=98118493; PubMed=9417943; DOI=10.1006/jmbi.1997.1396;
 RA Klaus W., Gsell B., Labhardt A.M., Wiß B., Senn H.,
 RT "The three-dimensional high resolution structure of human interferon
 alpha-2a determined by heteronuclear NMR spectroscopy in solution."
 J. Mol. Biol. 274:661-675(1997).
 RL
 CC -1- FUNCTION: Produced by macrophages, IFN-alpha have antiviral
 activities. Interferon stimulates the production of two enzymes: a
 protein kinase and an oligoadenylate synthetase.
 CC -1- SUBCELLULAR LOCATION: Secreted protein.
 CC -1- POLYMORPHISM: Three forms exist; alpha-2a (shown here), alpha-2b
 and alpha-2c.
 CC -1- PHARMACEUTICAL: Available under the names Roferon-A (Roche) or
 intron-A (Schering-Plough). Used as an anticancer drug for its
 antiproliferative activity.
 CC -1- SIMILARITY: Belongs to the alpha/beta interferon family.
 CC Copyrighted by the UniProt Consortium, see <http://www.uniprot.org/terms>
 CC Distributed under the Creative Commons Attribution-NonDerivs license
 CC -----
 DR EMBL, J00207; AAB59402.1; -; Genomic DNA.
 DR EMBL, V00544; CAA23805.1; -; mRNA.
 DR EMBL, V00548; CAA23805.1; -; mRNA.
 DR EMBL, V00549; CAA23810.1; -; mRNA.
 DR EMBL, Y11834; CAA72532.1; -; Genomic DNA.
 DR EMBL, M54866; AAA59181.1; -; mRNA.
 DR EMBL, M29883; AAA52715.1; -; Genomic DNA.
 DR EMBL, A04970; CAA00410.1; -; Unassigned DNA.
 DR PIR, A93234; IYHUN2.
 DR PIR, I78570; I78570.
 DR PDB, 1ITF; NMR; @=24-188.
 DR PDB, 1RH2; X-ray; A/B/C/D/E/F=24-188.
 DR PDB, 2HIE; Model; @=24-188.
 DR GlysultDB: P01563; -;
 DR Ensembl: ENSG00000188379; Homo sapiens.
 DR HGNC: HGNC:5423; IFNA2.
 DR MIM; 147562; Gene.
 DR LinkHub; P01563; -;
 DR GO; GO:0005132; P:interferon-alpha/beta receptor binding; TAS.
 DR GO; GO:0007166; P:cell surface receptor linked signal transdu. .; TAS.
 DR GO; GO:0007267; P:cell-cell signaling; TAS.
 DR GO; GO:0006917; P:induction of apoptosis; TAS.
 DR GO; GO:0006954; P:inflammatory response; TAS.
 DR InterPro; IPR000471; Interferon_abd.
 DR PANTHER; PTHR11691; Interferon_abd; 1.
 DR Pfam; PF00143; Interferon; 1.
 DR PRINTS; PR00266; INTERFERONAB.
 DR ProDom; PD000550; Interferon_abd; 1.
 DR SMART; SM00076; ITabd; 1.
 DR PROSITE; PS00252; INTERFERON_A_B_D; 1.
 DR 3D-structure; Antiviral defense; Cytokine; Direct protein sequencing;

KM Glycoprotein; Pharmaceutical; Polymorphism; Signal.
 FT SIGNAL 1 23
 FT CHAIN 24 188 Interferon alpha-2.
 FT CARBOHYD 129 129 /FTid=PRO_0000016360.
 FT DISULFID 24 121 O-linked [GALNAc...].
 FT DISULFID 52 161 /FTid=CAR_000049.
 FT VARIANT 46 46
 FT VARIANT 57 57 K -> R (in alpha-2b and alpha-2c).
 FT VARIANT 57 57 H -> R (in alpha-2c).
 FT HELIX 33 44 /FTid=VAR_013001.
 FT TURN 49 54
 FT HELIX 49 54
 FT HELIX 63 66
 FT HELIX 76 91
 FT HELIX 93 98
 FT HELIX 101 123
 FT TURN 126 127
 FT TURN 133 133
 FT HELIX 134 155
 FT TURN 156 157
 FT HELIX 160 178
 FT TURN 179 182
 SQ SEQUENCE 188 AA; 21550 MW; 101DD21D394CBF97 CRC64;
 Query Match 99.7%; Score 957; DB 1; Length 188;
 Best Local Similarity 99.5%; Pred. No. 1.2e-77;
 Matches 187; Conservative 1; Mismatches 0; Indels 0; Gaps 0;
 QY 1 MULTIPALVALLVLSCKSSGVGCDLPQTHSGSRRITLMLAQMRRISLFSCLKDHRDG 60
 DB 1 MULTIPALVALLVLSCKSSGVGCDLPQTHSGSRRITLMLAQMRRISLFSCLKDHRDG 60
 QY 61 PPOERGNQFOAETITPVTHEMIQQIFNLFSTRKSSAADETLDDKFTYELTQQLNDLEA 120
 DB 61 PPOERGNQFOAETITPVTHEMIQQIFNLFSTRKSSAADETLDDKFTYELTQQLNDLEA 120
 QY 121 CVIAGVGTETPLMKEDSILAVRKYFORITLYLKEKYSPCAMVEVRAIMSFSLSTNL 180
 DB 121 CVIAGVGTETPLMKEDSILAVRKYFORITLYLKEKYSPCAMVEVRAIMSFSLSTNL 180
 QY 181 QESLSRKE 188
 DB 181 QESLSRKE 188
 QY 181 QESLSRKE 188
 DB 181 QESLSRKE 188
 RESULT 3
 ID Q86UP4 HUMAN PRELIMINARY; PRT; 166 AA.
 AC Q86UP4;
 DT 01-JUN-2003, integrated into UniProtKB/TrEMBL.
 DT 01-JUN-2003, sequence version 1.
 DT 21-FEB-2006, entry version 13.
 DE Interferon alpha 2b.
 OS Homo sapiens (Human).
 OC Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini; Homiidae;
 OC Homo.
 NCBI_TaxID=9606;
 RX NUCLEOTIDE SEQUENCE.
 RA Chikara S.K., Joseph B., Sharma G.,
 RL Submitted (MAR-2003) to the EMBL/GenBank/DBJ databases.
 CC -1- SUBCELLULAR LOCATION: Secreted protein (by similarity).
 CC Copyrighted by the UniProt Consortium, see <http://www.uniprot.org/terms>
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 CC -----
 DR EMBL; AY25838; AAP20099.1; -; mRNA.
 DR HSSP; P01563; 1ITF.
 DR SMR; Q86UP4; 2-166.
 DR Ensembl; ENSG00000188379; Homo sapiens.

DR GO:0005615; C:extracellular space; IEA.
 DR GO:0005126; F:hematopoietic/inferon-class (D200-domain. . .; IEA.
 DR GO:0006952; P:defense response; IEA.
 DR GO:0006952; P:response to virus; IEA.
 DR INTERFERON; IPR000471; Interferon abd.
 DR PANTHER: PTHR11691; Interferon_abd; 1.
 DR Pfam: PF00143; Interferon; 1.
 DR PRINTS; PR00266; INTERFERONAB.
 DR PRODOM; PD000550; Interferon_abd; 1.
 DR SMART; SM00076; Ifabd; 1.
 DR PROSITE; PS00252; INTERFERON_A_B_D; 1.
 DR Antiviral defense; Cytochrome.
 SO SEQUENCE 166 AA; 19400 MW; B7DAC3C9E67782C6 CRC64;

Query Match 88.6%; Score 851; DB 2; Length 166;
 Best Local Similarity 100.0%; Pred. No. 3.4e-68;
 Matches 165; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 24 CDLPQTHSGSRRTTMLAQMRRISLFSCLKDRHDFGPOEERGNFOKAETIPVLAHEMI 83
 DB 2 CDLPQTHSGSRRTTMLAQMRRISLFSCLKDRHDFGPOEERGNFOKAETIPVLAHEMI 61

QY 84 QOIFNLSTKSSAAMDETLDDKFTYELVQQLNDEACVIGVGVETETPLMKEDSILA 143
 DB 62 QOIFNLSTKSSAAMDETLDDKFTYELVQQLNDEACVIGVGVETETPLMKEDSILA 121

QY 144 KTFPRTTLTKKKKSPCAWEVVRRAIMRSFSLSTNLQSLRSKE 188
 DB 122 KTFPRTTLTKKKKSPCAWEVVRRAIMRSFSLSTNLQSLRSKE 166

RESULT 4
 Q95J78_SAGOE PRELIMINARY; PRT; 189 AA.
 ID Q95J78; SAGOE
 DT 01-DEC-2001, integrated into UniProtKB/TrEMBL.
 DT 01-DEC-2001, sequence version 1.
 DT 21-FEB-2006, entry version 18.
 DE Interferon-alpha precursor.
 GN Name=ifn-alpha;
 OS Saguinus oedipus (Cotton-top tamarin).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Euarchontoglires; Primates; Platyrrhini;
 OC Callitrichidae; Saguinus.
 NCBI_Taxid=9490;
 RN NUCLEOTIDE SEQUENCE.
 RP Cecacci A., Aurisicchio L., Ciliberto G., Palombo F., Traboni C.;
 RA "Recombinant cotton-top tamarin interferon: a new tool for a primate
 hepatitis model.";
 RL Submitted (Oct-1999) to the EMBL/GenBank/DBJ databases.
 CC -1- SUBCELLULAR LOCATION: Secreted protein (by similarity).
 CC Copyrighted by the UniProt Consortium, see <http://www.uniprot.org/terms>
 CC Distributed under the Creative Commons Attribution-NonDerivs license
 CC EMBL: AJ250195; CAC44124.1; -; Genomic DNA.
 DR HSSP; P01563; 117F.
 DR SSM; Q95J78; 24-189.
 DR GO:0005615; C:extracellular space; IEA.
 DR GO:0005126; F:hematopoietic/inferon-class (D200-domain. . .; IEA.
 DR GO:0006952; P:defense response; IEA.
 DR GO:0006952; P:response to virus; IEA.
 DR Interferon; IPR000471; Interferon_abd; 1.
 DR PANTHER; PTHR11691; Interferon_abd; 1.
 DR Pfam; PF00143; Interferon; 1.
 DR PRINTS; PR00266; INTERFERONAB.
 DR PRODOM; PD000550; Interferon_abd; 1.
 DR SMART; SM00076; Ifabd; 1.
 DR PROSITE; PS00252; INTERFERON_A_B_D; 1.
 DR Antiviral defense; Cytochrome.
 FT SIGNAL 1 23 Potential.
 FT CHAIN 24 189 Potential.

SQ SEQUENCE 189 AA; 21937 MW; 06A45DD2B631C85C CRC64;

Query Match 84.8%; Score 814.5; DB 2; Length 189;
 Best Local Similarity 86.2%; Pred. No. 7.5e-65;
 Matches 163; Conservative 9; Mismatches 16; Indels 1; Gaps 1;

QY 1 MALTFALLVALVLSCKSSCSVGCGLPQTHSGSRRTTMLAQMRRISLFSCLKDRHDFG 60
 DB 1 MTLTFPLVALVLSYKSSCSGLGCDLPQTHSGSRRTTMLAQMRRISLFSCLKDRHDFG 60

QY 61 PFOEEF-GNFOKAETIPVLAHEMIQOIFNLSTKSSAAMDETLDDKFTYELVQQLNDE 119
 DB 61 PFOEEF-GNFOKAETIPVLAHEMIQOIFNLSTKSSAAMDETLDDKFTYELVQQLNDE 120

QY 120 ACVIGGVETETPLMKEDSILA 179
 DB 121 ACVIGGVETETPLMKEDSILA 180

QY 180 LQSLRSKE 188
 DB 181 LQSLRSKE 189

RESULT 5
 IFN55 HUMAN STANDARD; PRT; 189 AA.
 ID IFN55; HUMAN
 DT 21-JUL-1986, integrated into UniProtKB/Swiss-Prot.
 DT 13-AUG-1987, sequence version 1.
 DT 07-FEB-2006, entry version 57.
 DE Interferon alpha-5 precursor (interferon alpha-G) (leif G) (interferon
 DE alpha-61).
 GN Name=IFN55;
 OS Homo sapiens (Human).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini; Homnidae;
 OC Homo.
 NCBI_Taxid=9606;
 RN NUCLEOTIDE SEQUENCE.
 RP MEDLINE=86037205; PubMed=4057246;
 RX Henco K., Brosius J., Fujisawa A., Fujisawa J., Haynes J.R.,
 RA Hochstadt J., Kovacic T., Pasek M., Schaback C., Schmid J.,
 RA Todokoro K., Waelchli M., Nagata S., Weissmann C.;
 RT "Structural relationship of human interferon alpha genes and
 pseudogenes.";
 RL J. Mol. Biol. 185:227-260 (1985).
 RL [2]
 RN NUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC DNA].
 RP Humbray S.J., Oliver K., Hunt A.R., Plumb R.W., Loveland J.E.,
 RX PubMed=15164053; DOI=10.1038/nature02465;
 RA Howe K.L., Andrews T.D., Searle S., Hunt S.E., Scott C.E., Jones M.C.,
 RA Ainscough R., Almeida J.P., Ambrose K.D., Bailey R.I.S.,
 RA Babbage A.K., Babbage S., Baguley C.L., Bailey H., Beasley O., Bird C.P.,
 RA Barker D.J., Barlow K.F., Bates K., Beasley H., Beasley O., Bird C.P.,
 RA Bray-Allen S., Brown A.J., Brown J.Y., Burford D., Burrill W.,
 RA Burton J., Carder C., Carter N.P., Chapman J.C., Chen Y., Crolier M.,
 RA Clark S.Y., Clegg C.M., Clegg S., Collier R.E., Corby N., Crolier M.,
 RA Cummings A.T., Davies J., Dharm P., Dunn M., Dutta I., Dyer L.W.,
 RA Bartholomew M.E., Faulkner L., Fleming C.J., Frankish A.,
 RA Frankland J.A., French L., Fritcher D.G., Garner P., Garnett J.,
 RA Ghori J., Gilbert J.G.R., Glison C., Graham D.V., Gribble S.,
 RA Griffiths C., Griffiths-Jones S., Grocock R., Guy J., Hall R.E.,
 RA Hammond S., Harley J.L., Harrison E.S.I., Hart E.A., Heath P.D.,
 RA Henderson C.D., Hopkins B.L., Howard P.J., Howden P.J., Huckle E.,
 RA Johnson C., Johnson D., Joy A.A., Kay M., Keenan S., Kershaw J.K.,
 RA Kimberley A.M., King A., Knights A., Laird G.K., Langford D.M.,
 RA Lawlor S., Leongamornlert D.A., Leversha M., Lloyd C., Lloyd D.M.,
 RA Lovell J., Martin S., Meshkini-Mohammadi M., Matthews L., McLaren S.,
 RA McElroy K.E., McMurray A., Milne S., Nickerson T., Nisbett J.,
 RA Nordsiek G., Pearce A.V., Peck A.I., Porter K.M., Pandian R.,
 RA Pelan S., Phillimore B., Povey S., Ramsey Y., Rand V., Scharfe M.,
 RA Sehra H.K., Showkeen R., Sims S.K., Skuce C.D., Smith W.,

RA Steward C.A., Swarbreck D., Sycamore N., Tester J., Thorpe A.,
 RA Tracey A., Tromans A., Thomas D.W., Wall M., Wallis J.M., West A.P.,
 RA Whitehead S.L., Willey D.L., Williams S.A., Wilming L., Wray P.W.,
 RA Young L., Ashurst J.L., Coulson A., Blocker H., Duzdin R.,
 RA Sulston J.E., Hubbard T., Jackson M.J., Bentley D.R., Beck S.,
 RA Rogers J., Dunham I.,
 RT "DNA sequence and analysis of human chromosome 9.";
 RL Nature 429:369-374 (2004).
 RN [3]
 RP NUCLEOTIDE SEQUENCE OF 57-189.
 RC TISSUE=脾脾;
 RX MEDLINE=81148795; PubMed=6163083;
 RA Goedel D.V., Leung D.W., Dali T.J., Gross M., Lawn R.M.,
 RA McCandless R., Seeburg P.H., Ullrich A., Yelverton E., Gray P.W.,
 RT "The structure of eight distinct cloned human leukocyte interferon
 RT cDNAs.";
 RL Nature 290:20-26 (1981).
 RN [4]
 RP PROTEIN SEQUENCE OF 22-36.
 RX PubMed=15340161; DOI=10.1110/ps.04682504;
 RA Zhang Z., Henzel W.J.,
 RT "Signal peptide prediction based on analysis of experimentally
 RT verified cleavage sites.";
 RL Protein Sci. 13:2819-2824 (2004).
 CC -1- FUNCTION: Produced by macrophages, IFN-alpha have antiviral
 CC activities. Interferon stimulates the production of two enzymes: a
 CC protein kinase and an oligodeenylate synthetase.
 CC -1- SUBCELLULAR LOCATION: Secreted protein.
 CC -1- SIMILARITY: Belongs to the alpha/beta interferon family.
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 CC
 CC EMBL, X02956; CA26702.1; -; Genomic DNA.
 DR EMBL, AL162420; CAH73189.1; -; Genomic DNA.
 DR EMBL, V00541; CAA23802.1; -; mRNA.
 DR PIR, S43716; IYHU47.
 DR HSP, P01563; IITF.
 DR SMR, P01563; 24-189.
 DR Ensembl, ENSG00000147873; Homo sapiens.
 DR HGNC, HGNC:5426; IFNA5.
 DR MIM, 147565; gene.
 DR LinkHub, P01563; -.
 DR GO, GO:0005126; F.hematopoietin/interferon-class (D200-domain. .; TAS.
 DR InterPro, IPR000471; Interferon_abd.
 DR PANTHER, PTHR11691; Interferon_abd; 1.
 DR Pfam, PF00143; Interferon; 1.
 DR PRINTS, PR00266; INTERFERONAB.
 DR ProDom, PD000550; Interferon_abd; 1.
 DR SMART, SM00076; Ifabd; 1.
 DR PROSITE, PS00252; INTERFERON_A_B_D; 1.
 KM Antiviral defense; cytokine; Direct protein sequencing; Signal.
 FT SIGNAL 1 21
 FT CHAIN 22 189
 FT DISULFID 24 122 /FPIID=PRO_0000016362.
 FT DISULFID 52 162 By similarity.
 FT SEQUENCE 189 AA; 21942 MW; C605992FE2E78043 CRC64;
 Query Match 84.3%; Score 809.5; DB 1; Length 189;
 Best local similarity 83.6%; Pred. No. 2.1e-64;
 Matches 158; Conservative 11; Mismatches 19; Indels 1; Gaps 1;
 QY 1 MALTPALLVALVLSCKSSGVCDDIPQTHSLGSRITMLLAQMRISLFCICKDRHDG 60
 DB 1 MALPFLVALVLLNCKSLTSCDIPQTHSLNRRITMLMAQGRISPSCKDRHDG 60
 QY 61 PROEF-GNFOFAETIPVHEMIQOIFNLFSTKSSAAWDETLLKFTYELQQLNDE 119
 DB 61 FPOEFDGQFOFQAQAIIVHEMIQOIFNLFSTKSSAAWDETLLKFTYELQQLNDE 120
 QY 120 ACYIGVGATETPLMKEDSLAVRKYFORITLYLKKEKYSFCAWEYVRAEIMRSFSLSTN 179

DB 121 ACMQGEVGEDTPLMNVDISLTWRKYFORITLYLKKEKYSFCAWEYVRAEIMRSFSLSN 180
 QY 180 LQESLSKE 188
 DB 181 LOERLRKKE 189
 RESULT 6
 Q52LX3 HUMAN
 ID Q52LX3 HUMAN PRELIMINARY; PRT; 189 AA.
 AC Q52LX3;
 DT 24-MAY-2005, integrated into UniProtKB/TrEMBL.
 DT 24-MAY-2005, sequence version 1.
 DT 21-FEB-2006, entry version 9.
 DE Interferon, alpha 5.
 GN Name=IFNA5;
 OS Homo sapiens (Human)
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini; Hominiidae;
 OC Homo.
 OX NCBI_TaxID=9606;
 RN [1]
 RP NUCLEOTIDE SEQUENCE.
 RC TISSUE=Brain;
 RX MEDLINE=22388257; PubMed=12477932; DOI=10.1073/pnas.242603899;
 RA Strausberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,
 RA Klausner R.D., Collins F.S., Wagner L., Shenmen C.M., Schuler G.D.,
 RA Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,
 RA Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,
 RA Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,
 RA Stapleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E.,
 RA Brownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Pangue C.,
 RA Raha S.S., Lochuillano N.A., Peters G.J., Abramson R.D., Mullaly S.J.,
 RA Bosa S.A., McEwan P.J., McKernan K.J., Malek J.A., Gunaratne P.H.,
 RA Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hultk S.W.,
 RA Villalón D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,
 RA Fahney J., Helton E., Kettman M., Madan A., Rodriguez S., Sanchez A.,
 RA Blakesley R.W., Touchman J.W., Green E.D., Dickson M.C.,
 RA Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M.,
 RA Butlerfield Y.S.N., Krzywicki M.I., Skalska U., Smalls D.E.,
 RA Scherch A., Schein J.E., Jones S.J.M., Marra M.A.,
 RT "Generation and initial analysis of more than 15,000 full-length human
 RT and mouse cDNA sequences.";
 RL Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903 (2002).
 RN [2]
 RP NUCLEOTIDE SEQUENCE.
 RC TISSUE=Brain;
 RG NIH MGC Project;
 RL Submitted (APR-2005) to the EMBL/GenBank/DBJ databases.
 CC -1- SUBCELLULAR LOCATION: Secreted protein (By similarity).
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 CC
 CC EMBL, BC093757; AAH93757.1; -; mRNA.
 CC EMBL, BC093755; AAH93755.1; -; mRNA.
 DR SMR, Q52LX3; 24-189.
 DR Ensembl, ENSG00000147873; Homo sapiens.
 DR GO, GO:0005615; C.eitracellulin space; IEA.
 DR GO, GO:0005126; F.hematopoietin/interferon-class (D200-domain. .; IEA.
 DR GO, GO:0006952; P:defense response; IEA.
 DR GO, GO:000615; P:response to virus; IEA.
 DR InterPro, IPR000471; Interferon_abd.
 DR PANTHER, PTHR11691; Interferon_abd; 1.
 DR Pfam, PF00143; Interferon; 1.
 DR PRINTS, PR00266; INTERFERONAB.
 DR ProDom, PD000550; Interferon_abd; 1.
 DR SMART, SM00076; Ifabd; 1.
 DR PROSITE, PS00252; INTERFERON_A_B_D; 1.
 KM Antiviral defense; cytokine.
 FT SEQUENCE 189 AA; 21942 MW; C605992FE2E78043 CRC64;

Query Match 84.3%; Score 809.5; DB 2; Length 189;
 Best Local Similarity 83.6%; Pred. No. 2.1e-64;
 Matches 158; Conservative 11; Mismatches 19; Indels 1; Gaps 1;

QY 1 MALPALLALVLLVLSCKSSGVGCDLPOTHSIGSRRTMLLAQMRRISLFSCLKRHRDG 60
 DB 1 MALPALLALVLLVLSCKSSGVGCDLPOTHSIGSRRTMLLAQMRRISLFSCLKRHRDG 60
 QY 61 PPOEEF-GNOPOKARTIPLVLEHMIQOIFNLFSKSSAAMDRLDKFTTELYQOINDLE 119
 DB 61 PPOEEFDGNQPKAKAISVLHEMIQOIFNLFSKSSAAMDRLDKFTTELYQOINDLE 120
 QY 120 ACVIGGVGTEPTPLMKEDSILAVRKXFORITLYLKEKKYSPCAWEVVAEIMRSFSLSTN 179
 DB 121 ACMQEVGVEDTPIPLMNVDSILTVRKXFORITLYLKEKKYSPCAWEVVAEIMRSFSLSTN 180
 QY 180 IQESLRKE 188
 DB 181 IQERLRKE 189

RESULT 7
 IFNA6 HUMAN STANDARD; PRT; 189 AA.
 AC P05013; 13-AUG-1987, integrated into UniProtKB/Swiss-Prot.
 DT 13-AUG-1987, sequence version 1.
 DT 07-FEB-2006, entry version 58.
 DE Interferon alpha-6 precursor (Interferon alpha-K) (Ielf K) (Interferon
 DE alpha-54).
 GN Name=IFNA6;
 OS Homo sapiens (Human).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini; Homiidae;
 OC Homo.
 OX NCBI_TaxID=9606;
 RN [1]
 RP NUCLEOTIDE SEQUENCE.
 RX MEDLINE=86037205; PubMed=4057246;
 RA Henco K., Brosius J., Fujisawa A., Fujisawa J., Haynes J.R.,
 RA Hochstadt J., Kovacic T., Pasek M., Schamboeck A., Schmidt J.,
 RA Todokoro K., Waelchli M., Nagata S., Weissmann C.;
 RT "Structural relationship of human interferon alpha genes and
 RT pseudogenes";
 RT J. Mol. Biol. 185:227-260(1985).
 RL [2]
 RN NUCLEOTIDE SEQUENCE [LARGE SCALE MRNA].
 RP MEDLINE=22388257; PubMed=12477932; DOI=10.1073/pnas.242603899;
 RX Strausberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,
 RA Klausner R.D., Collins F.S., Wagner L., Shenmen C.M., Schuler G.D.,
 RA Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,
 RA Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,
 RA Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,
 RA Stachenko M., Soares M.B., Donald M.F., Casavant T.L., Scheetz T.E.,
 RA Brownstein M.J., Udell T.B., Toshiyuki S., Carninci P., Prange C.,
 RA Raha S.S., Loggellano N.A., Peters G.J., Abramson R.D., Millar S.J.,
 RA Bosak S.A., McMan P.J., McKernan K.J., Malek J.A., Gunaratne P.H.,
 RA Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,
 RA Villalón D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,
 RA Fahy J., Helton E., Kertesz M., Madan A., Rodriguez S., Sanchez A.,
 RA Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,
 RA Blakesley R.W., Touchman J.W., Green E.D., Dickson M.C.,
 RA Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M.,
 RA Butlerfield Y.S.N., Krzywinski M.I., Skalska U., Smalins D.E.,
 RA Scherch A., Schein J.E., Jones S.J.M., Marra M.A.;
 RT "Generation and initial analysis of more than 15,000 full-length human
 RT and mouse cDNA sequences";
 RT Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002).
 RN [3]
 RP PROTEIN SEQUENCE OF 21-35.
 RX PubMed=15340161; DOI=10.1110/ps.04682504;
 RA Zhang Z., Henzel W.J.;
 RT "Signal peptide prediction based on analysis of experimentally

RT verified cleavage sites.";
 RL Protein Sci. 13:2819-2824(2004).
 CC -1- FUNCTION: Produced by macrophages, IFN-alpha have antiviral
 CC activities. Interferon stimulates the production of two enzymes: a
 CC protein kinase and an oligoadenylate synthetase.
 CC -1- SUBCELLULAR LOCATION: Secreted protein.
 CC -1- SIMILARITY: Belongs to the alpha/beta interferon family.
 CC -----
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 CC -----

DR EMBL; X02958; CAA26704.1; -; Genomic DNA.
 DR EMBL; BC069471; AAH69471.1; -; mRNA.
 DR PIR; A23753; IWHI16.
 DR HSSP; P05013; 11TF.
 DR HSSP; P05013; 24-189.
 DR SRR; 147566; gene.
 DR ENSEMBL; ENSG00000120235; Homo sapiens.
 DR HGN; HGNC:5427; IFNA6.
 DR MIM; 147566; gene.
 DR GO; GO:0005125; F:hematopoietin/interferon-class (D200-domain) . . .; NAS.
 DR GO; GO:0009615; P:response to virus; NAS.
 DR InterPro; IPR000471; Interferon_abd.
 DR PANTHER; PTHR11691; Interferon_abd; 1.
 DR Pfam; PF00143; Interferon; 1.
 DR PRINTS; PR00266; INTERFERONAB.
 DR ProDom; PD000550; Interferon_abd; 1.
 DR SMART; SM00076; IFabd; 1.
 DR PROSITE; PS00252; INTERFERON_A_B_D; 1.
 DR KX Antiviral defense; Cytokine; Direct protein sequencing; Signal.
 FT SIGNAL 1 20
 FT CHAIN 21 189 Interferon alpha-6.
 FT FTID DISULFID 24 122 /FTID=PRO_0000016363.
 FT FT DISULFID 52 162 By similarity.
 SQ SEQUENCE 189 AA; 22141 MW; 8C7F3F90F12C562E CRC64;

Query Match 84.2%; Score 808.5; DB 1; Length 189;
 Best Local Similarity 85.7%; Pred. No. 2.6e-64;
 Matches 162; Conservative 6; Mismatches 20; Indels 1; Gaps 1;

QY 1 MALPALLALVLLVLSCKSSGVGCDLPOTHSIGSRRTMLLAQMRRISLFSCLKRHRDG 60
 DB 1 MALPALLALVLLVLSCKSSGVGCDLPOTHSIGSRRTMLLAQMRRISLFSCLKRHRDG 60
 QY 61 PPOEEF-GNOPOKARTIPLVLEHMIQOIFNLFSKSSAAMDRLDKFTTELYQOINDLE 119
 DB 61 PPOEEFDGNQPKAKAISVLHEMIQOIFNLFSKSSAAMDRLDKFTTELYQOINDLE 120
 QY 120 ACVIGGVGTEPTPLMKEDSILAVRKXFORITLYLKEKKYSPCAWEVVAEIMRSFSLSTN 179
 DB 121 ACMQEVGVGTEPTPLMKEDSILAVRKXFORITLYLKEKKYSPCAWEVVAEIMRSFSLSTN 180
 QY 180 IQESLRKE 188
 DB 181 IQERLRKE 189

RESULT 8
 OSVYQ1 HUMAN PRELIMINARY; PRT; 189 AA.
 AC OSVYQ1; 10-MAY-2005, integrated into UniProtKB/TrEMBL.
 DT 10-MAY-2005, sequence version 1.
 DT 21-FEB-2006, entry version 10.
 DE Interferon, alpha 6.
 GN Name=IFNA6; ORFNames=RP11-354P17.7-001;
 OS Homo sapiens (Human).
 CC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 CC Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini; Homiidae;
 CC Homo.
 OX NCBI_TaxID=9606;
 RN [1]
 RP NUCLEOTIDE SEQUENCE.

RA Beasley H.;
 RU Submitted (MAY-2005) to the EMBL/GenBank/DBJ databases.
 RN [2]
 RP NUCLEOTIDE SEQUENCE.
 RC TISSUE=PCR rescued clones;
 RX MEDLINE=22388257; PubMed=12477932; DOI=10.1073/pnas.242603899;
 RA Strausberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,
 RA Klausner R.D., Collins F.S., Wagner L., Shennan C.M., Schuler G.D.,
 RA Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,
 RA Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,
 RA Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,
 RA Stapleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E.,
 RA Brownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C.,
 RA Raha S.S., Loggellano N.A., Peters G.J., Abramson R.D., Mullaly S.J.,
 RA Bosak S.A., McEwan P.J., McKernan K.U., Malek J.A., Gay L.J., Hulyk S.W.,
 RA Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,
 RA Villalón D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,
 RA Fahy J., Helton E., Kettelman M., Madan A., Rodriguez S., Sanchez A.,
 RA Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,
 RA Blakesley R.W., Touchman J.W., Green E.D., Dickson M.C.,
 RA Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M.,
 RA Butterfield Y.S.N., Krzywinski M.I., Skalska U., Smalins D.E.,
 RA Scherch A., Schein J.E., Jones S.J.M., Marra M.A.;
 RT "Generation and initial analysis of more than 15,000 full-length human
 and mouse cDNA sequences.";
 RL Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002).
 RN [3]
 RP NUCLEOTIDE SEQUENCE.
 RC TISSUE=PCR rescued clones;
 RX NIH MGC Project;
 RA Submitted (MAY-2005) to the EMBL/GenBank/DBJ databases.
 RN [4]
 RP NUCLEOTIDE SEQUENCE.
 RC TISSUE=PCR rescued clones;
 RX NIH MGC Project;
 RA Submitted (JUN-2005) to the EMBL/GenBank/DBJ databases.
 RL -1- SUBCELLULAR LOCATION: Secreted protein (By similarity).
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 CC Distributed under the Creative Commons Attribution-NonDerivs license

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 CC EMBL; AL53732; CAH72903.1; -; Genomic DNA.
 CC EMBL; BC096710; AAH96710.1; -; mRNA.
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 CC EMBL; BC098357; AAH98357.1; -; mRNA.
 CC EMBL; BC096697; AAH96697.1; -; mRNA.
 CC SRR; Q5VYQ1; 24-189.
 CC Ensemble; ENSG00000120235; Homo sapiens.
 CC GO; GO:0005615; Cytoplasmic space; IEA.
 CC GO; GO:0005126; Phospholipid transfer class (D200-domain); IEA.
 CC GO; GO:0006952; Defense response; IEA.
 CC GO; GO:0006915; Response to virus; IEA.
 CC InterPro; IPR000471; Interferon abd.
 CC PANTHER; PTHR11691; Interferon abd; 1.
 CC Pfam; PF00143; Interferon; 1.
 CC PRINTS; P00266; INTERFERONAB.
 CC SMART; SM00076; Ipad1; 1.
 CC PROSITE; PS00252; INTERFERON_A_B; 1.
 CC Antiviral defense; Cytochrome.
 CC KW Antiviral defense; Cytochrome.
 CC SQ SEQUENCE 189 AA; 22141 MW; 8C7F3F90F12C562E CRC64;

Query Match 84.2%; Score 808.5; DB 2; Length 189;
 Best Local Similarity 85.7%; Pred. No. 2,6e-64;
 Matches 162; Conservative 6; Mismatches 20; Indels 1; Gaps 1;

QY 1 MALPALLVALLVLSCKSSGVCCDIPQTHSLSSRTMLLAQMRISLFSCLKDRHDC 60
 DB 1 MALPALLVALLVLSCKSSGVCCDIPQTHSLSSRTMLLAQMRISLFSCLKDRHDC 60
 QY 61 POEEB-GNQFOAKETIPVHEMIOOI PNLFSKSSAAADETLIDKFETELVQOANDLE 119
 DB 61 POEEB-GNQFOAKETIPVHEMIOOI PNLFSKSSAAADETLIDKFETELVQOANDLE 120

QY 120 ACVIGGVGTETPLMKEDSILAVRKYFORITLYLKKYSPCAWEVVRALNRSGLSTN 179
 DB 121 ACWQEVWVGTPPLNMEDSILAVRKYFORITLYLKKYSPCAWEVVRALNRSGLSTN 180
 QY 180 LOEFLRSKE 188
 DB 181 LOEFLRRKE 189

RESULT 9
 ID IFN14 HUMAN STANDARD; PRT; 189 AA.
 AC P01570;
 DT 21-JUL-1986, integrated into UniProtKB/Swiss-Prot.
 DT 21-JUL-1986, sequence version 3.
 DT 07-FEB-2006, entry version 63.
 DE Interferon alpha-14 precursor (Interferon alpha-H) (Leif H)
 DE (Interferon lambda-2-H).
 GN Name=IFNA14;
 OS Homo sapiens (Human).
 OC Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini; Homnidae;
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 OC NCBI_TaxID=9606;
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 RP NUCLEOTIDE SEQUENCE.
 RX MEDLINE=86037205; PubMed=4057246;
 RA Henco K., Brosius J., Fujisawa J., Haynes J.R.,
 RA Hochstadt J., Kovacic T., Pasek M., Schanboeck A., Schmid J.,
 RA Todokoro K., Waelchli M., Nagata S., Weissmann C.;
 RT "Structural relationship of human interferon alpha genes and
 pseudogenes.";
 RL J. Mol. Biol. 185:227-260(1985).
 RN [2]
 RP NUCLEOTIDE SEQUENCE.
 RX MEDLINE=81201124; PubMed=6165082;
 RA Lawn R.M., Adelman J., Dull T.J., Gross M., Goeddel D.V., Ullrich A.;
 RT "DNA sequence of two closely linked human leukocyte interferon
 genes.";
 RL Science 212:1159-1162(1981).
 RN [3]
 RP NUCLEOTIDE SEQUENCE.
 RX MEDLINE=81148795; PubMed=6163083;
 RA Goeddel D.V., Leung D.W., Dull T.J., Gross M., Lawn R.M.,
 RA McCandless R., Seeburg P.H., Ullrich A., Yelverton E., Gray P.W.;
 RT "The structure of eight distinct cloned human leukocyte interferon
 cDNAs.";
 RL Nature 290:20-26(1981).
 RN [4]
 RP NUCLEOTIDE SEQUENCE [LARGE SCALE MRNA].
 RX MEDLINE=22388257; PubMed=12477932; DOI=10.1073/pnas.242603899;
 RA Strausberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,
 RA Klausner R.D., Collins F.S., Wagner L., Shennan C.M., Schuler G.D.,
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 RA Villalón D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,
 RA Fahy J., Helton E., Kettelman M., Madan A., Rodriguez S., Sanchez A.,
 RA Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,
 RA Blakesley R.W., Touchman J.W., Green E.D., Dickson M.C.,
 RA Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M.,
 RA Butterfield Y.S.N., Krzywinski M.I., Skalska U., Smalins D.E.,
 RA Scherch A., Schein J.E., Jones S.J.M., Marra M.A.;
 RT "Generation and initial analysis of more than 15,000 full-length human
 and mouse cDNA sequences.";
 RL Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002).
 RN [5]
 RP PROTEIN SEQUENCE OF 24-53, AND CARBOHYDRATE-LINKAGE SITE ASN-95.

RX MEDLINE=98087498; PubMed=9425112;
 RA Nymen T.A., Teeloe H., Parkkinen J., Kalkkinen N.,
 RT "Identification of nine interferon-alpha subtypes produced by Sendai
 RL virus-induced human peripheral blood leucocytes.";
 RN Biochem. J. 329:295-302(1998).
 RP [6]
 CC ABSENCE OF POLYMORPHISM.
 RX MEDLINE=97067358; PubMed=8910771;
 RA Hussain M., Gali D.S., Lao M.-J.,
 RT "Identification of interferon-alpha 7, -alpha 14, and -alpha 21
 RL variants in the genome of a large human population.";
 CC J. Interferon Cytokine Res. 16:853-859(1996).
 CC -!- FUNCTION: Produced by macrophages, IFN-alpha have antiviral
 CC activities. Interferon stimulates the production of two enzymes: a
 CC protein kinase and an oligoadenylate synthetase.
 CC -!- SUBCELLULAR LOCATION: Secreted protein.
 CC -!- SIMILARITY: Belongs to the alpha/beta interferon family.
 CC -----
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 CC Distributed under the Creative Commons Attribution-NonDerivs license
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 CC EMBL: V00533; CAA23794.1; -; Genomic DNA.
 CC EMBL: X02959; CAA26705.1; -; Genomic DNA.
 CC EMBL: V00542; CAA23803.1; -; mRNA.
 CC EMBL: BC074956; AAH74956.1; -; mRNA.
 CC PIR: A92916; IYHU14.
 CC HSSP: P01563; 1ITP.
 CC SMR: P01570; 24-189.
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 CC HGNC: HGNC:5420; IFNA14.
 CC MIM: 147579; Gene.
 CC DR GO: 000126; F:hematopoietin/interferon-class (D200-domain. .; TAS.
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 CC DR PANTHER: PTHR11691; Interferon_abd; 1.
 CC DR Pfam: PF00143; Interferon; 1.
 CC DR PRINTS: PR00266; INTERFERONAB.
 CC DR ProDom: PD000550; Interferon_abd; 1.
 CC DR SMART: SM00076; IFabd; 1.
 CC DR PROSITE: PS00252; INTERFERON_A_B_D; 1.
 CC KW Antiviral defense; Cytokine; Direct protein sequencing; Glycoprotein;
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 CC FT CARBOHYD 95 95
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 CC Query Match 82.7%; Score 793.5; DB 1; Length 189;
 CC Best Local Similarity 82.0%; Pred. No. 5.8e-63;
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 CC
 CC RESULT 10
 CC OSVZ56_HUMAN

ID OSVZ56_HUMAN PRELIMINARY; PRT; 189 AA.
 AC OSVZ56;
 DT 10-MAY-2005, integrated into UniProtKB/TrEMBL.
 DT 10-MAY-2005, sequence version 1.
 DT 21-FEB-2006, entry version 9.
 DE Interferon, alpha 14 (IFNA14 protein).
 GN Name=IFNA14; ORFNames=RP11-380P16.9-001;
 OS Homo sapiens (Human).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini; Homiidae;
 OC Homo.
 OC NCBI_TaxID=9606;
 RN NUCLEOTIDE SEQUENCE.
 RP Beasley H.;
 RL Submitted (MAY-2005) to the EMBL/GenBank/DBJ databases.
 RN NUCLEOTIDE SEQUENCE.
 RP TISSUE=PCR rescued clones;
 RX MEDLINE=22388257; PubMed=12477932; DOI=10.1073/pnas.242603899;
 RA Strausberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,
 RA Klausner R.D., Collins F.S., Wagner L., Shenmen C.M., Schuler G.D.,
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 RA Villalón D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,
 RA Fahy J., Helton E., Kettelman M., Madan A., Rodriguez S., Sanchez A.,
 RA Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,
 RA Blakesley R.W., Touchman J.W., Green E.D., Dickson M.C.,
 RA Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M., Smailus D.E.,
 RA Butlerfield V.S.N., Krzywinski M.T., Skalska U., Smailus D.E.,
 RA Scherch A., Schein J.E., Jones S.J.W., Marra M.A.,
 RT "Generation and initial analysis of more than 15,000 full-length human
 RT and mouse cDNA sequences.";
 RT Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002).
 RN [3]
 RN NUCLEOTIDE SEQUENCE.
 RP TISSUE=PCR rescued clones;
 RG NIH MGCC Project;
 RL Submitted (SEP-2005) to the EMBL/GenBank/DBJ databases.
 CC -!- SUBCELLULAR LOCATION: Secreted protein (By similarity).
 CC -----
 CC Copyrighted by the UniProt Consortium, see <http://www.uniprot.org/terms>
 CC Distributed under the Creative Commons Attribution-NonDerivs license
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 CC EMBL: AL162420; CAH73187.1; -; Genomic DNA.
 CC EMBL: BC104159; AA104160.1; -; mRNA.
 CC EMBL: BC104160; AA104161.1; -; mRNA.
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 CC DR GO: 0005615; Extracellular space; IEA.
 CC DR GO: 0005126; F:hematopoietin/interferon-class (D200-domain. .; IEA.
 CC DR GO: 0006952; P:defense response; IEA.
 CC DR GO: 0009615; P:response to virus; IEA.
 CC DR InterPro: IPR000471; Interferon_abd.
 CC DR PANTHER: PTHR11691; Interferon_abd; 1.
 CC DR Pfam: PF00143; Interferon; 1.
 CC DR PRINTS: PR00266; INTERFERONAB.
 CC DR SMART: SM00076; IFabd; 1.
 CC DR PROSITE: PS00252; INTERFERON_A_B_D; 1.
 CC KW Antiviral defense; Cytokine.
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 CC Query Match 82.7%; Score 793.5; DB 2; Length 189;
 CC Best Local Similarity 82.0%; Pred. No. 5.8e-63;
 CC Matches 155; Conservative 16; Mismatches 17; Indels 1; Gaps 1;
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 CC 1 MALTFALLVALLVLSCKSSGVCDLPQTHSLGSRRTIMLLAQMRRISLFSCLKDRHNDG 60
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 CC RESULT 10
 CC OSVZ56_HUMAN

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Db      61 PFOEERFDGQFOKAOISVLEHMIQOTFNLFSKSSAAMDITLLEKFTTELYFOQNDL 120
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QY      180 LOESLSRKE 188
Db      181 LQKRLRRKD 189

RESULT 11
Q95J77 SAGOE PRELIMINARY; PRT; 189 AA.
AC Q95J77
DT 01-DEC-2001, integrated into UniProtKB/TrEMBL.
DT 01-DEC-2001, sequence version 1.
DT 21-FEB-2006, entry version 18.
DE Interferon-alpha precursor.
GN Name=ifn-alpha;
OS Saguinus oedatus (Cotton-top tamarin).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Euarchontoglires; Primates; Platyrrhini;
OC Callitrichidae; Saguinus.
OX NCBI_TaxID=9490;
RN [1]
RP NUCLEOTIDE SEQUENCE.
RA Cecacci A., Aurisicchio L., Ciliberto G., Palombo F., Traboni C.;
RT "Recombinant cotton-top tamarin Interferon: a new tool for a primate
RT hepatitis model."
RL Submitted (OCT-1999) to the EMBL/GenBank/DBJ databases.
CC -!- SUBCELLULAR LOCATION: Secreted protein (By similarity).
CC Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms
CC Distributed under the Creative Commons Attribution-NoDerivs license
CC -----
CC EMBL; AJ250196; CAC44125.1; -; Genomic_DNA.
DR HSSP; P01563; 11FP.
DR SMR; Q95J77; 24-189.
DR GO; GO:0005615; C:extracellular space; IEA.
DR GO; GO:0005126; F:hematopoietin/interferon-class (D200-domain. . .; IEA.
DR GO; GO:0006952; P:defense response; IEA.
DR GO; GO:0009615; P:response to virus; IEA.
DR InterPro; IPR000471; Interferon abd.
DR PANTHER; PTHR11691; Interferon_abd; 1.
DR Pfam; PF00143; Interferon; 1.
DR PRINTS; PR00266; INTERFERONAB.
DR PRODOM; PD000550; Interferon_abd; 1.
DR SMART; SM00076; IFabd; 1.
DR PROSITE; PS00252; INTERFERON_A_B_D; 1.
KW Antiviral defense; Cytokine; Signal.
FT SIGNAL 1 23 Potential.
FT CHAIN 24 189 Interferon-alpha.
SQ SEQUENCE 189 AA; 22052 MW; 9E4589CFEC329DBA CRC64;

Query Match 82.2%; Score 789.5; DB 2; Length 189;
Best Local Similarity 84.1%; Pred. No. 1.3e-62;
Matches 159; Conservative 9; Mismatches 20; Indels 1; Gaps 1;

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Db      121 ACVIOGVGTETPLMNEISILVRYKFORITLYLKEKYSACAMEVVAEIMRSFSLSTN 180
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Db      181 LQKRLRRKD 189

RESULT 12
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ID Q6QNB6_HUMAN
AC Q6QNB6;
DT 05-JUL-2004, integrated into UniProtKB/TrEMBL.
DT 05-JUL-2004, sequence version 1.
DT 07-FEB-2006, entry version 11.
DE Interferon alpha A (Fragment).
GN Name=IFNA;
OS Homo sapiens (Human).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini; Homnidae;
OC Homo.
OX NCBI_TaxID=9606;
RN [1]
RP NUCLEOTIDE SEQUENCE.
RA Behravan J., Ahmadipour H.;
RL Submitted (JAN-2004) to the EMBL/GenBank/DBJ databases.
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CC Distributed under the Creative Commons Attribution-NoDerivs license
CC -----
CC EMBL; AY532915; AAS92248.1; -; Genomic_DNA.
DR HSSP; P56828; 1B5L.
DR SMR; Q6QNB6; 1-154.
DR Ensembl; ENSG00000188379; Homo sapiens.
DR GO; GO:0005615; C:extracellular space; IEA.
DR GO; GO:0005126; F:hematopoietin/interferon-class (D200-domain. . .; IEA.
DR GO; GO:0006952; P:defense response; IEA.
DR GO; GO:0009615; P:response to virus; IEA.
DR InterPro; IPR000471; Interferon abd.
DR PANTHER; PTHR11691; Interferon_abd; 1.
DR Pfam; PF00143; Interferon; 1.
DR PRINTS; PR00266; INTERFERONAB.
DR PRODOM; PD000550; Interferon_abd; 1.
DR SMART; SM00076; IFabd; 1.
DR PROSITE; PS00252; INTERFERON_A_B_D; 1.
KW Antiviral defense; Cytokine.
FT NON_TER 1 154
FT NON_TER 154 154
SQ SEQUENCE 154 AA; 17963 MW; 013C1BB58B7BE4A3 CRC64;

Query Match 81.9%; Score 786; DB 2; Length 154;
Best Local Similarity 98.7%; Pred. No. 2.1e-62;
Matches 152; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

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Db      145 YFORITLYLKEKYSPCAMEVVAEIMRSFSLST 178
Db      121 YFORITLYLKEKYSPCAMEVVAEIMRSFSLPT 154

RESULT 13
IFNA4 HUMAN STANDARD; PRT; 189 AA.
ID IFNA4_HUMAN
AC P05014; P33358;
DT 13-AUG-1987, integrated into UniProtKB/Swiss-Prot.
DT 10-MAY-2005, sequence version 2.

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07-FEB-2006, entry version 61.
 Interferon alpha-4 precursor (Interferon alpha-4B) (Interferon alpha-4B) (Interferon alpha-4B)
 DE M1) (Interferon alpha-4B).
 GN Name=IFNA4;
 OS Homo sapiens (Human).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini; Homnidae;
 CC Homo.
 NCBI_TaxID=9606;
 [1]
 NP NUCLEOTIDE SEQUENCE, AND VARIANTS ALPHA-4B THR-74 AND VAL-137.
 RX MEDLINE=86037205; PubMed=4057246;
 RA Henco K., Brosius J., Fujisawa A., Fujisawa J., Haynes J.R., Hochstadt J., Kovacic T., Pasek M., Schambcock A., Schmid J., Todokoro K., Waelchli M., Nagata S., Weissmann C.;
 RA "Structural relationship of human interferon alpha genes and pseudogenes."
 RT J. Mol. Biol. 185:227-260 (1985).
 [2]
 NP NUCLEOTIDE SEQUENCE.
 RX MEDLINE=84307815; PubMed=6089830;
 RA Linane A.W., Beilhartz M.W., McMullen G.L., Macreadie I.G., Murphy M., Nisbet I.T., Novitski C.E., Woodrow G.C.;
 RA "Nucleotide sequence and expression in E. coli of a human interferon-alpha gene selected from a genomic library using synthetic oligonucleotides."
 RT Biochem. Int. 8:725-732 (1984).
 [3]
 NP NUCLEOTIDE SEQUENCE [LARGE SCALE MRNA], AND VARIANT THR-74.
 RX MEDLINE=22388257; PubMed=12477932; DOI=10.1073/pnas.242603899;
 RA Strausberg R.L., Feingold E.A., Grouse L.H., Derge J.G., Klausner R.D., Collins F.S., Wagner L., Shenmen C.M., Schuler G.D., Altschul S.F., Zeeberg B., Buetow K.H., Scheer C.F., Bhat N.K., Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F., Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L., Brownstein M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E., Rana S.S., Loquellano N.A., Peters G.J., Abramson R.D., Millaby S.J., Bosak S.A., McEwen P.J., McKernan K.J., Malek J.A., Gunaratne P.H., Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hultyk S.W., Viallano D.K., Mizny D.M., Sodergren E.J., Lu X., Gibbs R.A., Fahy J., Helton E., Kettelman M., Madan A., Rodriguez S., Sanchez A., Whiting R.W., Madan A., Young A.C., Shevchenko Y., Bouffard G.G., Blakesley R.W., Touchman J.W., Green E.D., Dickson M.C., Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M., Butlerfield V.S.N., Krzywinski M.T., Skalska U., Smalins D.E., Scherch A., Schein J.E., Jones S.J.M., Maiz M.A.;
 RA "Generation and initial analysis of more than 15,000 full-length human and mouse cDNA sequences."
 RT Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903 (2002).
 [4]
 NP PROTEIN SEQUENCE OF 24-56.
 RX MEDLINE=98087498; PubMed=9425112;
 RA Nymen T.A., Toeloe H., Parkkinen J., Kalkkinen N.;
 RT "Identification of nine interferon-alpha subtypes produced by Sendai virus-induced human peripheral blood leucocytes."
 RL Biochem. J. 329:295-302 (1998).
 [5]
 NP POLYMORPHISM.
 RX MEDLINE=97474410; PubMed=9335434;
 RA Hussein M., Gill D.S., Liao M.-J.;
 RT "Both variant forms of interferon-alpha4 gene (IFNA4a and IFNA4b) are present in the human population."
 RL J. Interferon Cytokine Res. 17:559-566 (1997).
 CC -1- FUNCTION: Produced by macrophages, IFN-alpha have antiviral activities. Interferon stimulates the production of two enzymes: a protein kinase and an oligoadenylate synthetase.
 CC -1- SUBCELLULAR LOCATION: Secreted protein.
 CC -1- POLYMORPHISM: Two forms exist: alpha-4a (shown here) and alpha-4b. They seem to be equally abundant.
 CC -1- SIMILARITY: Belongs to the alpha/beta interferon family.
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 CC -----
 CC EMBL: X02955; CAA26701.1; -; Genomic_DNA.
 DR EMBL: M27318; AAAS2726.1; -; mRNA.
 DR EMBL: BC074965; AAH74965.1; -; mRNA.
 DR EMBL: BC074966; AAH74966.1; -; mRNA.
 DR PIR: E23753; IYH04B.
 DR PIR: I52347; I52347.
 DR HSSP: P01563; 11RF.
 DR SMR: P05014; 24-189.
 DR EMBL: ENSG00000147877; Homo sapiens.
 DR HGNC: HGNC:5425; IFNA4.
 DR MIM: 147564; gene.
 DR GO: GO:0005132; F:interferon-alpha/beta receptor binding; TAS.
 DR GO: GO:0009615; P:response to virus; TAS.
 DR InterPro: IPR000471; Interferon_abd.
 DR PANTHER: PTHR11691; Interferon_1.
 DR Pfam: PF00143; Interferon_1.
 DR PRINTS: PR00266; INTERFERONAB.
 DR SMART: SM00076; IFabd_1.
 DR PROSITE: PS00252; INTERFERON A B D; 1.
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 KW Signal.
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 FT CHAIN 24 189 /FtId=PRO_0000016361.
 FT FT DISTLFRD 24 122 By similarity.
 FT FT DISTLFRD 52 162 By similarity.
 FT FT VARIANT 74 74 A->T (in alpha-4B; dbSNP:1062571).
 FT FT VARIANT 137 137 E->V (in alpha-4B; dbSNP:3750480).
 FT FT /FtId=VAR_013003.
 FT FT /FtId=VAR_013003.
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 Best Local Similarity 81.5%; Pred. No. 6.9e-62;
 Matches 154; Conservative 17; Mismatches 17; Indels 1; Gaps 1;
 QY 1 MALPFLVALVALVYSCSSGCGVCDLPOTHSIGSRRTMLAOMKRISLFSCTKDRHDFG 60
 DB 1 MALPFLVALVALVYSCSSGCGVCDLPOTHSIGSRRTMLAOMKRISLFSCTKDRHDFG 60
 QY 61 FPEEFSGHQXQAQALSVLHEMIQTFNLSTEDSSAAVQSLKSTELYOQNDLE 119
 DB 61 FPEEFSGHQXQAQALSVLHEMIQTFNLSTEDSSAAVQSLKSTELYOQNDLE 120
 QY 120 ACVIGCVGCTTPLMKEDSIIAVKRYFORITLYLKEKYSQCAVEVAEIMRSLSSTN 179
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 AC OSV15;
 DT 07-DEC-2004, integrated into UniProtKB/TrEMBL.
 DT 07-DEC-2004, sequence version 1.
 DT 21-FEB-2006, entry version 10.
 DE Interferon, alpha 4.
 GN Name=IFNA4; ORFNames=Rpl1-IP8.4-001;
 OS Homo sapiens (Human).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini; Homnidae;
 CC Homo.
 CC NCBI_TaxID=9606;
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 NP NUCLEOTIDE SEQUENCE.
 RA Pelan S.;
 RP Submitted (MAY-2005) to the EMBL/GenBank/DBJ databases.

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CC -1- SUBCELLULAR LOCATION: Secreted protein (By similarity).
CC -----
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CC Distributed under the Creative Commons Attribution-NoDerivs license
CC -----
CC EMBL: AL512606; CAH71188.1; -; Genomic DNA.
CC SMR: Q5VW15; 24-189.
CC Ensembl: ENSG00000147877; Homo sapiens.
CC LinkHub: Q5VW15; -.
DR GO: GO:0005615; C:extracellular space; IEA.
DR GO: GO:0005126; F:hematopoietin/interferon-class (D200-domain. . .; IEA.
DR GO: GO:0006952; P:defense response; IEA.
DR GO: GO:0006915; P:response to virus; IEA.
DR InterPro: IPR000471; Interferon_abd.
DR PANTHER: PTHR11691; Interferon_abd; 1.
DR Pfam: PF00143; Interferon; 1.
DR PRINTS: PR00266; INTERFERONAB.
DR ProDom: PD000550; Interferon_abd; 1.
DR SMART: SM00076; Ifabd; 1.
DR PROSITE: PS00252; INTERFERON_A_B_D; 1.
DR Antiviral defense; Cytokine.
KW SEQUENCE 189 AA; 21808 MW; 828DF9C33ABC37F CRC64;

Query Match      81.4%; Score 781.5; DB 2; Length 189;
Best Local Similarity 81.5%; Pred. No. 6.9e-62;
Matches 154; Conservative 17; Mismatches 17; Indels 1; Gaps 1;

QY 1 MALTPALLVALVLSCKSSGVCGLPQTHSGSRRTMLLAQMRRISLFSCLKDRHDPG 60
DB 1 MALSPALLMAVLVLSKSSGVCGLPQTHSGSRRTMLLAQMRRISLFSCLKDRHDPG 60
QY 61 PFOEEF-GNOPOKAETIPVLHEMIQOIFNLFTSKDSSAAMDDELTKDFYTELXQOLNDLE 119
DB 61 FFEERFDGQFOKAKAIVLHEMIQOIFNLFTSKDSSAAMDDELTKDFYTELXQOLNDLE 120
QY 120 ACVIGGVGTETPLMKEDSILAVRKYFORITLYLKEXKXSPCAWEVVAEIMRSFSLSTN 179
DB 121 ACVIGGVGTETPLMKEDSILAVRKYFORITLYLKEXKXSPCAWEVVAEIMRSFSLSTN 180
QY 180 LOESLRKE 188
DB 181 LQKRLRKD 189

RESULT 15
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AC Q52LB8;
DT 24-MAY-2005, integrated into UniProtKB/TrEMBL.
DT 24-MAY-2005, sequence version 1.
DE 21-FEB-2006, entry version 10.
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GN Name=IFNA13;
OS Homo sapiens (Human).
OC Eukaryota; Metazoa; Chordata; Cranialia; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini; Homiidae;
OC Homo.
OX NCBI_TaxID=9606;
RN [1]
RP NUCLEOTIDE SEQUENCE.
RC TISSUE=Brain;
RA MEDLINE=2238257; PubMed=12477932; DOI=10.1073/pnas.242603899;
RA Strausberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,
RA Klausner R.D., Collins F.S., Magnet L., Shennen C.M., Schler G.D.,
RA Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,
RA Hopkins R.F., Jordan H., Moore T., Wax S.I., Wang J., Hsieh F.,
RA Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,
RA Stapleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E.,
RA Brownstein M.J., Ueda T.B., Toshiyuki S., Carninci P., Prange C.,
RA Raha S.S., Loguettano N.A., Peters G.J., Abramson R.D., Mallahy S.J.,
RA Bosak S.A., McEwan P.J., McKernan K.J., Malek J.A., Gunaratne P.H.,
RA Richards S., Morley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,
RA Villalón D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,

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RA Fahey J., Helton E., Kettelman M., Madan A., Rodrigues S., Sanchez A.,
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RA Blakesley R.W., Touchman J.W., Green E.D., Dickson M.C.,
RA Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M.,
RA Butterfield Y.S.N., Krzywinski M.I., Skalska U., Smalins D.E.,
RA Scherch A., Schein J.E., Jones S.J.W., Maira M.A.,
RA "Generation and initial analysis of more than 15,000 full-length human
RA and mouse cDNA sequences";
RL Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002).
RN [2]
RP NUCLEOTIDE SEQUENCE.
RC TISSUE=Brain;
RA NIH MGC Project;
RL Submitted (Apr-2005) to the EMBL/GenBank/DBJ databases.
CC -1- SUBCELLULAR LOCATION: Secreted protein (By similarity).
CC -----
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CC Distributed under the Creative Commons Attribution-NoDerivs license
CC -----
CC EMBL: BC093988; AAH93988.1; -; mRNA.
CC EMBL: BC112002; AA112003.1; -; mRNA.
CC SMR: Q52LB8; 24-189.
CC Ensembl: ENSG00000120247; Homo sapiens.
DR GO: GO:0005615; C:extracellular space; IEA.
DR GO: GO:0005126; F:hematopoietin/interferon-class (D200-domain. . .; IEA.
DR GO: GO:0006952; P:defense response; IEA.
DR GO: GO:0006915; P:response to virus; IEA.
DR InterPro: IPR000471; Interferon_abd.
DR PANTHER: PTHR11691; Interferon_abd; 1.
DR Pfam: PF00143; Interferon; 1.
DR PRINTS: PR00266; INTERFERONAB.
DR ProDom: PD000550; Interferon_abd; 1.
DR SMART: SM00076; Ifabd; 1.
DR PROSITE: PS00252; INTERFERON_A_B_D; 1.
DR Antiviral defense; Cytokine.
KW SEQUENCE 189 AA; 21697 MW; 442F8BB754D88398 CRC64;

Query Match      80.9%; Score 776.5; DB 2; Length 189;
Best Local Similarity 82.5%; Pred. No. 1.9e-61;
Matches 156; Conservative 10; Mismatches 22; Indels 1; Gaps 1;

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QY 61 PFOEEF-GNOPOKAETIPVLHEMIQOIFNLFTSKDSSAAMDDELTKDFYTELXQOLNDLE 119
DB 61 FFEERFDGQFOKAKAIVLHEMIQOIFNLFTSKDSSAAMDDELTKDFYTELXQOLNDLE 120
QY 120 ACVIGGVGTETPLMKEDSILAVRKYFORITLYLKEXKXSPCAWEVVAEIMRSFSLSTN 179
DB 121 ACVIGGVGTETPLMKEDSILAVRKYFORITLYLKEXKXSPCAWEVVAEIMRSFSLSTN 180
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DB 181 LQKRLRKD 189

Search completed: October 14, 2006, 08:01:49
Job time : 303 secs

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GenCore version 5.1.9
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OM protein - protein search, using sw model

Run on: October 14, 2006, 08:02:07 ; Search time 53 seconds

(without alignments)
310.486 Million cell updates/sec

Title: US-10-653-350-1

Perfect score: 960
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Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 650591 seqs, 87530628 residues

Total number of hits satisfying chosen parameters: 650591

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Listing first 45 summaries

Database : Issued Patents AA:*

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- 3: /EMC_Celerra_SIDS3/prodata/2/iaa/7 COMB.pep:*
- 4: /EMC_Celerra_SIDS3/prodata/2/iaa/H.COMB.pep:*
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- 6: /EMC_Celerra_SIDS3/prodata/2/iaa/R.COMB.pep:*
- 7: /EMC_Celerra_SIDS3/prodata/2/iaa/backfile1.pep:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
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2	960	100.0	188	2	US-07-145-002B-35 Sequence 35, Appl
3	960	100.0	188	2	US-06-256-204C-26 Sequence 26, Appl
4	960	100.0	188	2	US-06-256-204C-35 Sequence 35, Appl
5	960	100.0	188	2	US-09-949-016-5966 Sequence 5966, Ap
6	960	100.0	188	2	US-09-945-873A-4 Sequence 4, Appl
7	960	100.0	205	2	US-09-949-016-8552 Sequence 8552, Ap
8	957	99.7	188	2	US-09-206-903A-7 Sequence 7, Appl
9	957	99.7	188	2	US-09-202-122-7 Sequence 7, Appl
10	957	99.7	188	2	US-09-206-935-9 Sequence 9, Appl
11	957	99.7	188	2	US-07-145-002B-2 Sequence 2, Appl
12	957	99.7	188	2	US-07-145-002B-17 Sequence 17, Appl
13	957	99.7	188	2	US-09-919-622A-7 Sequence 7, Appl
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15	957	99.7	188	2	US-06-256-204C-17 Sequence 17, Appl
16	957	99.7	188	2	US-09-966-625-1 Sequence 1, Appl
17	957	99.7	188	2	US-09-559-413-3 Sequence 3, Appl
18	943	98.2	188	2	US-09-206-936-9 Sequence 9, Appl
19	937.5	97.7	189	1	US-08-026-758-4 Sequence 4, Appl
20	937	97.6	219	7	US-08-026-758-4 Sequence 4, Appl
21	934.5	97.3	189	1	US-08-026-758-5 Sequence 5, Appl
22	929.5	96.8	189	7	US-08-026-758-5 Sequence 5, Appl
23	895	93.2	195	7	5198345-17 Patent No. 5198345
24	851.5	88.7	188	1	US-08-249-671A-11 Sequence 11, Appl
25	851	88.6	165	1	US-08-024-330-1 Sequence 1, Appl
26	851	88.6	165	1	US-07-952-840-1 Sequence 1, Appl

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28	851	88.6	165	2	US-09-462-941-3 Sequence 3, Appl
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ALIGNMENTS

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RESULT 1
US-07-145-002B-26
Sequence 26, Application US/07145002B
Patent No. 6482613
GENERAL INFORMATION:
APPLICANT: Goedel, David V.
APPLICANT: Pestka, Sidney
TITLE OF INVENTION: MICROBIAL PRODUCTION OF MATURE HUMAN
FILE REFERENCE: 1803-0088-999
CURRENT APPLICATION NUMBER: US/07/145, 002B
CURRENT FILING DATE: 1989-01-19
NUMBER OF SEQ ID NOS: 70
SOFTWARE: FastSeq for Windows Version 3.0
SEQ ID NO 26
LENGTH: 188
ORGANISM: Homo sapiens
TYPE: PRT
US-07-145-002B-26
100.0%; Score 960; DB 2; Length 188;
Best Local Similarity 100.0%; Pred. No. 1.5e-103;
Matches 188; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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DB 1 MALTFALLVALVLSCSKSCVGCDDLPQTHSLGSRRTMLLAQMRRLSFLSCLKDRDFG 60

QY 61 FPPEEFNOQKAKETTPVHEMTQOIFNLSTOSSAAMDETLIDKPYTELQOANDLEA 120
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QY 121 CVIOGVVETTPMKEDSILAVRKYFORITLYLKEKKYSPCAEVEVRAEIMRSPSLTNL 180
DB 121 CVIOGVVETTPMKEDSILAVRKYFORITLYLKEKKYSPCAEVEVRAEIMRSPSLTNL 180

QY 181 QESIRKE 188
DB 181 QESIRKE 188

RESULT 2
US-07-145-002B-35
Sequence 35, Application US/07145002B
Patent No. 6482613
GENERAL INFORMATION:
APPLICANT: Goedel, David V.
APPLICANT: Pestka, Sidney
TITLE OF INVENTION: MICROBIAL PRODUCTION OF MATURE HUMAN

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; TITLE OF INVENTION: LEUKOCYTE INTERFERONS
; FILE REFERENCE: 1803-0088-999
; CURRENT APPLICATION NUMBER: US/07/145,002B
; CURRENT FILING DATE: 1989-01-19
; NUMBER OF SEQ ID NOS: 70
; SOFTWARE: FASTSEQ for Windows Version 3.0
; SEQ ID NO 35
; LENGTH: 188
; TYPE: PRT
; ORGANISM: Homo sapiens
; US-07-145-002B-35
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Query Match          100.0%; Score 960; DB 2; Length 188;
Best Local Similarity 100.0%; Pred. No. 1.5e-103; Indels 0; Gaps 0;
Matches 188; Conservative 0; Mismatches 0;
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QY 1 MALTFALLVALVLSCKSSCSVCGCDLPQTHSLGSRRTMLLAQMRISLFSCLKDRHDFG 60
D 1 MALTFALLVALVLSCKSSCSVCGCDLPQTHSLGSRRTMLLAQMRISLFSCLKDRHDFG 60
QY 61 PPOEFNGNFOKAKETIPVLHEMIOQIFNLSTKSSAAMDETLLDKFYTELYOQNDLEA 120
D 61 PPOEFNGNFOKAKETIPVLHEMIOQIFNLSTKSSAAMDETLLDKFYTELYOQNDLEA 120
QY 121 CVIGGVGVTETPLMKEDSILA VRKYFORITLYLKEKKYSPCAWEVVAEIMRSFSLSTNL 180
D 121 CVIGGVGVTETPLMKEDSILA VRKYFORITLYLKEKKYSPCAWEVVAEIMRSFSLSTNL 180
QY 181 QESLRKSE 188
D 181 QESLRKSE 188
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```

RESULT 3
US-06-256-204C-26
; Sequence 26, Application US/06256204C
; Patent No. 6610830
; GENERAL INFORMATION:
; APPLICANT: Goeddel, David V.
; APPLICANT: Pestka, Sidney
; TITLE OF INVENTION: MICROBIAL PRODUCTION OF MATURE HUMAN
; TITLE OF INVENTION: LEUKOCYTE INTERFERONS
; FILE REFERENCE: 1803-0025-999
; CURRENT APPLICATION NUMBER: US/06/256,204C
; CURRENT FILING DATE: 1981-04-21
; NUMBER OF SEQ ID NOS: 85
; SOFTWARE: FASTSEQ for Windows Version 3.0
; SEQ ID NO 26
; LENGTH: 188
; TYPE: PRT
; ORGANISM: Homo sapiens
; US-06-256-204C-26
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Query Match          100.0%; Score 960; DB 2; Length 188;
Best Local Similarity 100.0%; Pred. No. 1.5e-103; Indels 0; Gaps 0;
Matches 188; Conservative 0; Mismatches 0;
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```

QY 1 MALTFALLVALVLSCKSSCSVCGCDLPQTHSLGSRRTMLLAQMRISLFSCLKDRHDFG 60
D 1 MALTFALLVALVLSCKSSCSVCGCDLPQTHSLGSRRTMLLAQMRISLFSCLKDRHDFG 60
QY 61 PPOEFNGNFOKAKETIPVLHEMIOQIFNLSTKSSAAMDETLLDKFYTELYOQNDLEA 120
D 61 PPOEFNGNFOKAKETIPVLHEMIOQIFNLSTKSSAAMDETLLDKFYTELYOQNDLEA 120
QY 121 CVIGGVGVTETPLMKEDSILA VRKYFORITLYLKEKKYSPCAWEVVAEIMRSFSLSTNL 180
D 121 CVIGGVGVTETPLMKEDSILA VRKYFORITLYLKEKKYSPCAWEVVAEIMRSFSLSTNL 180
QY 181 QESLRKSE 188
D 181 QESLRKSE 188
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RESULT 4
US-06-256-204C-35
; Sequence 35, Application US/06256204C
; Patent No. 6610830
; GENERAL INFORMATION:
; APPLICANT: Goeddel, David V.
; APPLICANT: Pestka, Sidney
; TITLE OF INVENTION: MICROBIAL PRODUCTION OF MATURE HUMAN
; TITLE OF INVENTION: LEUKOCYTE INTERFERONS
; FILE REFERENCE: 1803-0025-999
; CURRENT APPLICATION NUMBER: US/06/256,204C
; CURRENT FILING DATE: 1981-04-21
; NUMBER OF SEQ ID NOS: 85
; SOFTWARE: FASTSEQ for Windows Version 3.0
; SEQ ID NO 35
; LENGTH: 188
; TYPE: PRT
; ORGANISM: Homo sapiens
; US-06-256-204C-35
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Query Match          100.0%; Score 960; DB 2; Length 188;
Best Local Similarity 100.0%; Pred. No. 1.5e-103; Indels 0; Gaps 0;
Matches 188; Conservative 0; Mismatches 0;
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QY 1 MALTFALLVALVLSCKSSCSVCGCDLPQTHSLGSRRTMLLAQMRISLFSCLKDRHDFG 60
D 1 MALTFALLVALVLSCKSSCSVCGCDLPQTHSLGSRRTMLLAQMRISLFSCLKDRHDFG 60
QY 61 PPOEFNGNFOKAKETIPVLHEMIOQIFNLSTKSSAAMDETLLDKFYTELYOQNDLEA 120
D 61 PPOEFNGNFOKAKETIPVLHEMIOQIFNLSTKSSAAMDETLLDKFYTELYOQNDLEA 120
QY 121 CVIGGVGVTETPLMKEDSILA VRKYFORITLYLKEKKYSPCAWEVVAEIMRSFSLSTNL 180
D 121 CVIGGVGVTETPLMKEDSILA VRKYFORITLYLKEKKYSPCAWEVVAEIMRSFSLSTNL 180
QY 181 QESLRKSE 188
D 181 QESLRKSE 188
```

```

RESULT 5
US-09-949-016-5966
; Sequence 5966, Application US/09949016
; Patent No. 6812339
; GENERAL INFORMATION:
; APPLICANT: VENTER, J. Craig et al.
; TITLE OF INVENTION: POLYMORPHISMS IN KNOWN GENES ASSOCIATED
; TITLE OF INVENTION: WITH HUMAN DISEASE, METHODS OF DETECTION AND USES THEREOF
; FILE REFERENCE: C1001307
; CURRENT APPLICATION NUMBER: US/09/949,016
; CURRENT FILING DATE: 2000-04-14
; PRIOR APPLICATION NUMBER: 60/241,755
; PRIOR FILING DATE: 2000-10-20
; PRIOR APPLICATION NUMBER: 60/237,768
; PRIOR FILING DATE: 2000-10-03
; PRIOR APPLICATION NUMBER: 60/231,498
; PRIOR FILING DATE: 2000-09-08
; NUMBER OF SEQ ID NOS: 207012
; SOFTWARE: FASTSEQ for Windows Version 4.0
; SEQ ID NO 5966
; LENGTH: 188
; TYPE: PRT
; ORGANISM: Human
; US-09-949-016-5966
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Query Match          100.0%; Score 960; DB 2; Length 188;
Best Local Similarity 100.0%; Pred. No. 1.5e-103; Indels 0; Gaps 0;
Matches 188; Conservative 0; Mismatches 0;
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QY 1 MALTFALLVALVLSCKSSCSVCGCDLPQTHSLGSRRTMLLAQMRISLFSCLKDRHDFG 60
D 1 MALTFALLVALVLSCKSSCSVCGCDLPQTHSLGSRRTMLLAQMRISLFSCLKDRHDFG 60
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Db      1 MALTFALLVALVLVLSCKSSGVGCDLPQTHSLGSRRTMLLAQMRISLFSCLKDRHDFG 60
QY      61 FPOEEGNGOFQKAEITPVLEHMIQQIFNLSTKSSAAMDETLDDKFTYELYOQNDLEA 120
        |||||||
Db      61 FPOEEGNGOFQKAEITPVLEHMIQQIFNLSTKSSAAMDETLDDKFTYELYOQNDLEA 120
QY      121 CVIQGVGTETPLMKEDSILAVRKYFORITLYLKEKKYSCAMEVYRAEIMRSFSLSTNL 180
        |||||||
Db      121 CVIQGVGTETPLMKEDSILAVRKYFORITLYLKEKKYSCAMEVYRAEIMRSFSLSTNL 180
QY      181 QESLSRKE 188
        |||||||
Db      181 QESLSRKE 188

RESULT 6
US-09-915-873A-4
; Sequence 4, Application US/09915873A
; Patent No. 6815184
; GENERAL INFORMATION:
; APPLICANT: Stomp, Anne-Marie
; APPLICANT: Dickey, Lynn
; APPLICANT: Gaskaska, John
; TITLE OF INVENTION: Expression of Biologically Active
; FILE REFERENCE: 40989/237225
; CURRENT FILING DATE: 2001-07-26
; PRIOR FILING DATE: 2001-05-23
; PRIOR FILING DATE: 2001-05-23
; PRIOR FILING DATE: 2000-07-31
; NUMBER OF SEQ ID NOS: 12
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 4
; LENGTH: 188
; TYPE: PRT
; ORGANISM: Homo sapiens
; US-09-915-873A-4

Query Match      100.0%; Score 960; DB 2; Length 188;
Best Local Similarity 100.0%; Pred. No. 1.5e-103;
Matches 188; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY      1 MALTFALLVALVLVLSCKSSGVGCDLPQTHSLGSRRTMLLAQMRISLFSCLKDRHDFG 60
        |||||||
Db      1 MALTFALLVALVLVLSCKSSGVGCDLPQTHSLGSRRTMLLAQMRISLFSCLKDRHDFG 60
QY      61 FPOEEGNGOFQKAEITPVLEHMIQQIFNLSTKSSAAMDETLDDKFTYELYOQNDLEA 120
        |||||||
Db      61 FPOEEGNGOFQKAEITPVLEHMIQQIFNLSTKSSAAMDETLDDKFTYELYOQNDLEA 120
QY      121 CVIQGVGTETPLMKEDSILAVRKYFORITLYLKEKKYSCAMEVYRAEIMRSFSLSTNL 180
        |||||||
Db      121 CVIQGVGTETPLMKEDSILAVRKYFORITLYLKEKKYSCAMEVYRAEIMRSFSLSTNL 180
QY      181 QESLSRKE 188
        |||||||
Db      181 QESLSRKE 188

RESULT 7
US-09-949-016-8552
; Sequence 8552, Application US/09949016
; Patent No. 6812339
; GENERAL INFORMATION:
; APPLICANT: Venter, J. Craig et al.
; TITLE OF INVENTION: POLYNORRHISMS IN KNOWN GENES ASSOCIATED
; FILE REFERENCE: C0001307
; CURRENT FILING DATE: 2000-04-14
; PRIOR FILING DATE: 2000-04-14
; PRIOR APPLICATION NUMBER: 60/241,755
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; PRIOR FILING DATE: 2000-10-20
; PRIOR APPLICATION NUMBER: 60/237,768
; PRIOR FILING DATE: 2000-10-03
; PRIOR APPLICATION NUMBER: 60/231,498
; PRIOR FILING DATE: 2000-09-08
; NUMBER OF SEQ ID NOS: 207012
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 8552
; LENGTH: 205
; TYPE: PRT
; ORGANISM: Human
; US-09-949-016-8552

Query Match      100.0%; Score 960; DB 2; Length 205;
Best Local Similarity 100.0%; Pred. No. 1.7e-103;
Matches 188; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY      1 MALTFALLVALVLVLSCKSSGVGCDLPQTHSLGSRRTMLLAQMRISLFSCLKDRHDFG 60
        |||||||
Db      18 MALTFALLVALVLVLSCKSSGVGCDLPQTHSLGSRRTMLLAQMRISLFSCLKDRHDFG 77
QY      61 FPOEEGNGOFQKAEITPVLEHMIQQIFNLSTKSSAAMDETLDDKFTYELYOQNDLEA 120
        |||||||
Db      78 FPOEEGNGOFQKAEITPVLEHMIQQIFNLSTKSSAAMDETLDDKFTYELYOQNDLEA 137
QY      121 CVIQGVGTETPLMKEDSILAVRKYFORITLYLKEKKYSCAMEVYRAEIMRSFSLSTNL 180
        |||||||
Db      138 CVIQGVGTETPLMKEDSILAVRKYFORITLYLKEKKYSCAMEVYRAEIMRSFSLSTNL 197
QY      181 QESLSRKE 188
        |||||||
Db      198 QESLSRKE 205
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RESULT 8
US-09-206-903A-7
; Sequence 7, Application US/09206903A
; Patent No. 6200780
; GENERAL INFORMATION:
; APPLICANT: Chen, Jian
; APPLICANT: Godowski, Paul J.
; APPLICANT: Wood, William I.
; APPLICANT: Zhang, Dong-Xiao
; TITLE OF INVENTION: NOVEL TYPE I INTERFERONS
; FILE REFERENCE: P1224-2R1
; CURRENT FILING DATE: 1998-12-07
; PRIOR FILING DATE: 1998-10-30
; NUMBER OF SEQ ID NOS: 12
; SEQ ID NO 7
; LENGTH: 188
; TYPE: PRT
; ORGANISM: Homo sapiens
; US-09-206-903A-7

Query Match      99.7%; Score 957; DB 2; Length 188;
Best Local Similarity 99.5%; Pred. No. 3.3e-103;
Matches 187; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY      1 MALTFALLVALVLVLSCKSSGVGCDLPQTHSLGSRRTMLLAQMRISLFSCLKDRHDFG 60
        |||||||
Db      1 MALTFALLVALVLVLSCKSSGVGCDLPQTHSLGSRRTMLLAQMRISLFSCLKDRHDFG 60
QY      61 FPOEEGNGOFQKAEITPVLEHMIQQIFNLSTKSSAAMDETLDDKFTYELYOQNDLEA 120
        |||||||
Db      61 FPOEEGNGOFQKAEITPVLEHMIQQIFNLSTKSSAAMDETLDDKFTYELYOQNDLEA 120
QY      121 CVIQGVGTETPLMKEDSILAVRKYFORITLYLKEKKYSCAMEVYRAEIMRSFSLSTNL 180
        |||||||
Db      121 CVIQGVGTETPLMKEDSILAVRKYFORITLYLKEKKYSCAMEVYRAEIMRSFSLSTNL 180
QY      181 QESLSRKE 188
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Db 181 QESLRKE 188

RESULT 9
US-09-202-122-7
Sequence 7, Application US/09202122

Patent No. 6299869

GENERAL INFORMATION:

APPLICANT: Chen, Jian

APPLICANT: Godowski, Paul

APPLICANT: Wood, William I.

APPLICANT: Zhang, Dong-Xiao

TITLE OF INVENTION: HUMAN INTERFERON-EPSILON: A TYPE I INTERFERON

FILE REFERENCE: P1224R2 (filed)

CURRENT APPLICATION NUMBER: US/09/202,122

CURRENT FILING DATE: 1999-03-04

PRIOR APPLICATION NUMBER: PCT/US98/25672

PRIOR FILING DATE: 1998-12-03

NUMBER OF SEQ ID NOS: 12

SEQ ID NO 7

LENGTH: 188

TYPE: PRT

ORGANISM: Homo sapiens

US-09-202-122-7

Query Match

Best Local Similarity 99.7%; Score 957; DB 2; Length 188;

Matches 187; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 MALTFALLVALVLSCKSSCSVCGCDLPQTHSLGSRRTMLLAQMRKISLFSCLKDRHDFG 60

Db 1 MALTFALLVALVLSCKSSCSVCGCDLPQTHSLGSRRTMLLAQMRKISLFSCLKDRHDFG 60

QY 61 FPOEFGNOFOKAEITPVLEHMIQOIFNLFTSTOSSAAMDITLDDKFTYELYOQNDLEA 120

Db 61 FPOEFGNOFOKAEITPVLEHMIQOIFNLFTSTOSSAAMDITLDDKFTYELYOQNDLEA 120

QY 121 CVIQGVGTETPLMKEDSILAARKYFORITLYLKEKKYSPCAWEVVAEIMRSFSLSTNL 180

Db 121 CVIQGVGTETPLMKEDSILAARKYFORITLYLKEKKYSPCAWEVVAEIMRSFSLSTNL 180

QY 181 QESLRKE 188

Db 181 QESLRKE 188

RESULT 10

US-09-206-935-9

Sequence 9, Application US/09206935

Patent No. 6299877

GENERAL INFORMATION:

APPLICANT: Chen, Jian

APPLICANT: Godowski, Paul

APPLICANT: Wood, William I.

APPLICANT: Zhang, Dong-Xiao

TITLE OF INVENTION: NOVEL TYPE I INTERFERONS

FILE REFERENCE: 11669.50US05

CURRENT APPLICATION NUMBER: US/09/206,935

CURRENT FILING DATE: 1998-12-07

EARLIER APPLICATION NUMBER: 60/2084,045

EARLIER FILING DATE: 1998-05-04

NUMBER OF SEQ ID NOS: 24

SOFTWARE: PatentIn Ver. 2.0

SEQ ID NO 9

LENGTH: 188

TYPE: PRT

ORGANISM: Homo sapiens

US-09-206-935-9

QY 1 MALTFALLVALVLSCKSSCSVCGCDLPQTHSLGSRRTMLLAQMRKISLFSCLKDRHDFG 60

Db 1 MALTFALLVALVLSCKSSCSVCGCDLPQTHSLGSRRTMLLAQMRKISLFSCLKDRHDFG 60

QY 61 FPOEFGNOFOKAEITPVLEHMIQOIFNLFTSTOSSAAMDITLDDKFTYELYOQNDLEA 120

Db 61 FPOEFGNOFOKAEITPVLEHMIQOIFNLFTSTOSSAAMDITLDDKFTYELYOQNDLEA 120

QY 121 CVIQGVGTETPLMKEDSILAARKYFORITLYLKEKKYSPCAWEVVAEIMRSFSLSTNL 180

Db 121 CVIQGVGTETPLMKEDSILAARKYFORITLYLKEKKYSPCAWEVVAEIMRSFSLSTNL 180

QY 181 QESLRKE 188

Db 181 QESLRKE 188

RESULT 11

US-07-145-002B-2

Sequence 2, Application US/07145002B

Patent No. 6482613

GENERAL INFORMATION:

APPLICANT: Goeddel, David V.

APPLICANT: Pestka, Sidney

TITLE OF INVENTION: MICROBIAL PRODUCTION OF MATURE HUMAN

TITLE OF INVENTION: LEUCOCYTE INTERFERONS

FILE REFERENCE: 1803-0088-999

CURRENT APPLICATION NUMBER: US/07/145,002B

CURRENT FILING DATE: 1989-01-19

NUMBER OF SEQ ID NOS: 70

SOFTWARE: FastSeq for Windows Version 3.0

SEQ ID NO 2

LENGTH: 188

TYPE: PRT

ORGANISM: Homo sapiens

US-07-145-002B-2

Query Match

Best Local Similarity 99.7%; Score 957; DB 2; Length 188;

Matches 187; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 MALTFALLVALVLSCKSSCSVCGCDLPQTHSLGSRRTMLLAQMRKISLFSCLKDRHDFG 60

Db 1 MALTFALLVALVLSCKSSCSVCGCDLPQTHSLGSRRTMLLAQMRKISLFSCLKDRHDFG 60

QY 61 FPOEFGNOFOKAEITPVLEHMIQOIFNLFTSTOSSAAMDITLDDKFTYELYOQNDLEA 120

Db 61 FPOEFGNOFOKAEITPVLEHMIQOIFNLFTSTOSSAAMDITLDDKFTYELYOQNDLEA 120

QY 121 CVIQGVGTETPLMKEDSILAARKYFORITLYLKEKKYSPCAWEVVAEIMRSFSLSTNL 180

Db 121 CVIQGVGTETPLMKEDSILAARKYFORITLYLKEKKYSPCAWEVVAEIMRSFSLSTNL 180

QY 181 QESLRKE 188

Db 181 QESLRKE 188

RESULT 12

US-07-145-002B-17

Sequence 17, Application US/07145002B

Patent No. 6482613

GENERAL INFORMATION:

APPLICANT: Goeddel, David V.

APPLICANT: Pestka, Sidney

TITLE OF INVENTION: MICROBIAL PRODUCTION OF MATURE HUMAN

TITLE OF INVENTION: LEUCOCYTE INTERFERONS

FILE REFERENCE: 1803-0088-999

CURRENT APPLICATION NUMBER: US/07/145,002B

CURRENT FILING DATE: 1989-01-19

NUMBER OF SEQ ID NOS: 70

SOFTWARE: FastSeq for Windows Version 3.0

SEQ ID NO 17
LENGTH: 188
TYPE: PRT
ORGANISM: Homo sapiens
US-07-145-002B-17

Query Match 99.7%; Score 957; DB 2; Length 188;
Best Local Similarity 99.5%; Pred. No. 3.3e-103;
Matches 187; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 MALTFALLVALVLSCKSSCSVGCGLPQTHSLGSRRTMLLAQMRISLFSCLKDRHDFG 60
DB 1 MALTFALLVALVLSCKSSCSVGCGLPQTHSLGSRRTMLLAQMRISLFSCLKDRHDFG 60
QY 61 FPOEEFGNOFOKAEITIPVLHEMIQOIFNLSTKDSAAAMDETLDDKRYTELQOOLNDLEA 120
DB 61 FPOEEFGNOFOKAEITIPVLHEMIQOIFNLSTKDSAAAMDETLDDKRYTELQOOLNDLEA 120
QY 121 CVIQGVGTETPLMKEDSILAARKYFORITLYLKEKKYSPCAWEVVAEIMRSFSLSTNL 180
DB 121 CVIQGVGTETPLMKEDSILAARKYFORITLYLKEKKYSPCAWEVVAEIMRSFSLSTNL 180
QY 181 QESLSRKE 188
DB 181 QESLSRKE 188

RESULT 13
US-09-919-622A-7
Sequence 7, Application US/09919622A
Patent No. 6569420
GENERAL INFORMATION:
APPLICANT: Chen, Jian
APPLICANT: Godowski, Paul
APPLICANT: Wood, William I.
APPLICANT: Zhang, Dong-Xiao
TITLE OF INVENTION: HUMAN INTERFERON-EPSILON: A TYPE I INTERFERON
FILE REFERENCE: P1224R2C1 (replacement)
CURRENT APPLICATION NUMBER: US/09/919, 622A
CURRENT FILING DATE: 2001-07-30
PRIOR APPLICATION NUMBER: US 09/202122,
PRIOR FILING DATE: 1999-03-04
PRIOR APPLICATION NUMBER: PCT/US98/25672
PRIOR FILING DATE: 1998-12-03
NUMBER OF SEQ ID NOS: 12
SEQ ID NO 7
LENGTH: 188
TYPE: PRT
ORGANISM: Homo sapiens
US-09-919-622A-7

Query Match 99.7%; Score 957; DB 2; Length 188;
Best Local Similarity 99.5%; Pred. No. 3.3e-103;
Matches 187; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 MALTFALLVALVLSCKSSCSVGCGLPQTHSLGSRRTMLLAQMRISLFSCLKDRHDFG 60
DB 1 MALTFALLVALVLSCKSSCSVGCGLPQTHSLGSRRTMLLAQMRISLFSCLKDRHDFG 60
QY 61 FPOEEFGNOFOKAEITIPVLHEMIQOIFNLSTKDSAAAMDETLDDKRYTELQOOLNDLEA 120
DB 61 FPOEEFGNOFOKAEITIPVLHEMIQOIFNLSTKDSAAAMDETLDDKRYTELQOOLNDLEA 120
QY 121 CVIQGVGTETPLMKEDSILAARKYFORITLYLKEKKYSPCAWEVVAEIMRSFSLSTNL 180
DB 121 CVIQGVGTETPLMKEDSILAARKYFORITLYLKEKKYSPCAWEVVAEIMRSFSLSTNL 180
QY 181 QESLSRKE 188
DB 181 QESLSRKE 188

RESULT 14

US-06-256-204C-2
Sequence 2, Application US/06256204C
Patent No. 6610830
GENERAL INFORMATION:
APPLICANT: Goeddel, David V.
APPLICANT: Pestka, Sidney
TITLE OF INVENTION: MICROBIAL PRODUCTION OF MATURE HUMAN
FILE REFERENCE: 1803-0025-999
CURRENT APPLICATION NUMBER: US/06/256, 204C
CURRENT FILING DATE: 1981-04-21
NUMBER OF SEQ ID NOS: 85
SOFTWARE: FastSeq for Windows Version 3.0
SEQ ID NO 2
LENGTH: 188
TYPE: PRT
ORGANISM: Homo sapiens
US-06-256-204C-2

Query Match 99.7%; Score 957; DB 2; Length 188;
Best Local Similarity 99.5%; Pred. No. 3.3e-103;
Matches 187; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 MALTFALLVALVLSCKSSCSVGCGLPQTHSLGSRRTMLLAQMRISLFSCLKDRHDFG 60
DB 1 MALTFALLVALVLSCKSSCSVGCGLPQTHSLGSRRTMLLAQMRISLFSCLKDRHDFG 60
QY 61 FPOEEFGNOFOKAEITIPVLHEMIQOIFNLSTKDSAAAMDETLDDKRYTELQOOLNDLEA 120
DB 61 FPOEEFGNOFOKAEITIPVLHEMIQOIFNLSTKDSAAAMDETLDDKRYTELQOOLNDLEA 120
QY 121 CVIQGVGTETPLMKEDSILAARKYFORITLYLKEKKYSPCAWEVVAEIMRSFSLSTNL 180
DB 121 CVIQGVGTETPLMKEDSILAARKYFORITLYLKEKKYSPCAWEVVAEIMRSFSLSTNL 180
QY 181 QESLSRKE 188
DB 181 QESLSRKE 188

RESULT 15
US-06-256-204C-17
Sequence 17, Application US/06256204C
Patent No. 6610830
GENERAL INFORMATION:
APPLICANT: Goeddel, David V.
APPLICANT: Pestka, Sidney
TITLE OF INVENTION: MICROBIAL PRODUCTION OF MATURE HUMAN
FILE REFERENCE: 1803-0025-999
CURRENT APPLICATION NUMBER: US/06/256, 204C
CURRENT FILING DATE: 1981-04-21
NUMBER OF SEQ ID NOS: 85
SOFTWARE: FastSeq for Windows Version 3.0
SEQ ID NO 17
LENGTH: 188
TYPE: PRT
ORGANISM: Homo sapiens
US-06-256-204C-17

Query Match 99.7%; Score 957; DB 2; Length 188;
Best Local Similarity 99.5%; Pred. No. 3.3e-103;
Matches 187; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 MALTFALLVALVLSCKSSCSVGCGLPQTHSLGSRRTMLLAQMRISLFSCLKDRHDFG 60
DB 1 MALTFALLVALVLSCKSSCSVGCGLPQTHSLGSRRTMLLAQMRISLFSCLKDRHDFG 60
QY 61 FPOEEFGNOFOKAEITIPVLHEMIQOIFNLSTKDSAAAMDETLDDKRYTELQOOLNDLEA 120
DB 61 FPOEEFGNOFOKAEITIPVLHEMIQOIFNLSTKDSAAAMDETLDDKRYTELQOOLNDLEA 120
QY 121 CVIQGVGTETPLMKEDSILAARKYFORITLYLKEKKYSPCAWEVVAEIMRSFSLSTNL 180
DB 121 CVIQGVGTETPLMKEDSILAARKYFORITLYLKEKKYSPCAWEVVAEIMRSFSLSTNL 180

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us-10-653-350-1.rai

Page 6

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Qy 181 Q E S L R S K E 188

Db 181 Q E S L R S K E 188

Search completed: October 14, 2006, 08:03:34
Job time : 54 secs

GenCore version 5.1.9
Copyright (c) 1993 - 2006 Bioacceleration Ltd.

OM protein - protein search, using sw model

Run on: October 14, 2006, 08:02:52 ; Search time 179 Seconds
(without alignments)
486.505 Million cell updates/sec

Title: US-10-653-350-1

Perfect score: 960
Sequence: 1 MALTFAVLVALVLSCKSSC.....EIMRFSLSITNLSQSLRSKE 188

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 2097797 seqs, 463214858 residues

Total number of hits satisfying chosen parameters: 2097797

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%

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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	960	100.0	188	3 US-09-881-050-24	Sequence 24, Appl
2	960	100.0	188	3 US-09-915-873-4	Sequence 4, Appl
3	960	100.0	188	4 US-10-087-325-2	Sequence 2, Appl
4	960	100.0	188	4 US-10-411-037-4	Sequence 4, Appl
5	960	100.0	188	4 US-10-411-026-4	Sequence 4, Appl
6	960	100.0	188	4 US-10-410-962-4	Sequence 4, Appl
7	960	100.0	188	4 US-10-411-049-4	Sequence 4, Appl
8	960	100.0	188	4 US-10-410-939-4	Sequence 4, Appl
9	960	100.0	188	4 US-10-410-997-4	Sequence 4, Appl
10	960	100.0	188	4 US-10-411-012-4	Sequence 4, Appl
11	960	100.0	188	4 US-10-287-994-4	Sequence 4, Appl
12	960	100.0	188	4 US-10-410-913-4	Sequence 4, Appl
13	960	100.0	188	5 US-10-276-642-12	Sequence 12, Appl
14	960	100.0	188	5 US-10-794-615-4	Sequence 4, Appl
15	960	100.0	188	5 US-10-653-350-1	Sequence 1, Appl
16	960	100.0	188	5 US-10-410-980-4	Sequence 4, Appl
17	960	100.0	188	5 US-10-873-846-4	Sequence 4, Appl
18	960	100.0	188	5 US-10-410-897-4	Sequence 4, Appl
19	960	100.0	188	5 US-10-492-261-4	Sequence 4, Appl
20	960	100.0	188	5 US-10-936-447-14	Sequence 14, Appl
21	960	100.0	188	6 US-11-046-440-23	Sequence 23, Appl
22	960	100.0	188	6 US-11-147-492-8	Sequence 8, Appl
23	960	100.0	188	6 US-11-172-549-23	Sequence 23, Appl
24	960	100.0	188	6 US-11-183-205-4	Sequence 4, Appl
25	960	100.0	415	5 US-10-841-250-12	Sequence 12, Appl
26	960	100.0	415	6 US-11-029-003-12	Sequence 12, Appl
27	960	100.0	423	5 US-10-841-250-10	Sequence 10, Appl

28	960	100.0	423	6 US-11-029-003-10	Sequence 10, Appl
29	960	100.0	430	5 US-10-841-250-22	Sequence 22, Appl
30	960	100.0	430	6 US-11-029-003-22	Sequence 22, Appl
31	960	100.0	669	5 US-11-053-100-39	Sequence 39, Appl
32	960	100.0	723	5 US-10-775-180-125	Sequence 125, Appl
33	960	100.0	773	5 US-10-775-204-403	Sequence 403, Appl
34	960	100.0	773	6 US-11-175-690-450	Sequence 450, Appl
35	957	99.7	188	3 US-09-919-622A-7	Sequence 7, Appl
36	957	99.7	188	3 US-09-962-625-1	Sequence 7, Appl
37	957	99.7	188	4 US-10-418-038-7	Sequence 7, Appl
38	957	99.7	188	4 US-10-654-796-1	Sequence 1, Appl
39	957	99.7	188	4 US-10-777-081-1	Sequence 1, Appl
40	957	99.7	188	4 US-10-777-081-1	Sequence 1, Appl
41	957	99.7	188	5 US-10-936-642-8	Sequence 8, Appl
42	957	99.7	188	5 US-10-936-642-16	Sequence 16, Appl
43	957	99.7	188	6 US-11-172-549-21	Sequence 21, Appl
44	957	99.7	188	6 US-11-058-066-22	Sequence 22, Appl
45	955	99.5	188	4 US-10-234-406-2	Sequence 2, Appl

ALIGNMENTS

RESULT 1
US-09-881-050-24
Sequence 24, Application US/09881050
Publication No. US2002025304A1
GENERAL INFORMATION:
APPLICANT: CROZE, EDWARD M.
APPLICANT: FAULDS, DARL
APPLICANT: WAGNER, T. CHARIS
TITLE OF INVENTION: NOVEL INTERFERON FOR THE TREATMENT OF MULTIPLE
TITLE OF INVENTION: SCLEROSIS
FILE REFERENCE: BERLX-88
CURRENT APPLICATION NUMBER: US/09/881, 050
CURRENT FILING DATE: 2001-06-15
PRIOR APPLICATION NUMBER: 60/212, 046
PRIOR FILING DATE: 2000-06-16
NUMBER OF SEQ ID NOS: 30
SOFTWARE: PatentIn Ver. 2.1
SEQ ID NO 24
LENGTH: 188
TYPE: PRT
ORGANISM: Unknown Organism
FEATURE:
OTHER INFORMATION: Description of Unknown Organism: IFNalpha2 amino
US-09-881-050-24

Query Match 100.0%; Score 960; DB 3; Length 188;
Best Local Similarity 100.0%; Pred. No. 9.8e-94;
Matches 188; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 MALTFAVLVALVLSCKSSVCVCDLPQTHSLGSRRTMLLAQMRISLFSCLKDRHDFG 60
DB 1 MALTFAVLVALVLSCKSSVCVCDLPQTHSLGSRRTMLLAQMRISLFSCLKDRHDFG 60
QY 61 PFOEBGNFOFKAKETIPVLHEMIQOIFNLSTKDSAAWDETLLDFEYTELVOQLNDLEA 120
DB 61 PFOEBGNFOFKAKETIPVLHEMIQOIFNLSTKDSAAWDETLLDFEYTELVOQLNDLEA 120
QY 121 CVIQGVGVETPLMKEDSILAARVYFORITLYLKEKKYSCAWVVRAEIMRSFSLSTNL 180
DB 121 CVIQGVGVETPLMKEDSILAARVYFORITLYLKEKKYSCAWVVRAEIMRSFSLSTNL 180
QY 181 QESLRSKE 188
DB 181 QESLRSKE 188

RESULT 2
US-09-915-873-4
Sequence 4, Application US/09915873

Publication No. US20020086027A1
GENERAL INFORMATION:
APPLICANT: Stomp, Anne-Marie
APPLICANT: Dickey, Lynn
APPLICANT: Gasdaska, John
TITLE OF INVENTION: Expression of Biologically Active
FILE REFERENCE: 40989/237225
CURRENT APPLICATION NUMBER: US/09/915,873
PRIOR FILING DATE: 2001-07-26
PRIOR APPLICATION NUMBER: US 60/293,330
PRIOR FILING DATE: 2001-05-23
PRIOR APPLICATION NUMBER: US 60/221,705
PRIOR FILING DATE: 2000-07-31
NUMBER OF SEQ ID NOS: 8
SOFTWARE: FastSeq for Windows Version 4.0
SEQ ID NO 4
LENGTH: 188
TYPE: PRT
ORGANISM: Homo sapiens
US-09-915-873-4

Query Match 100.0%; Score 960; DB 3; Length 188;
Best Local Similarity 100.0%; Pred. No. 9.8e-94;
Matches 188; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 MALTFALLVALVLSCKSSGCGCDLPQTHSLGSRRTMLLAQMRISLFSCLKDRHDFG 60
DB 1 MALTFALLVALVLSCKSSGCGCDLPQTHSLGSRRTMLLAQMRISLFSCLKDRHDFG 60
QY 61 PFOEFGNOFOKATIPVLHEMIQIFNLFTSKDSSAAMDETLIDKFTYELYOQNDLEA 120
DB 61 PFOEFGNOFOKATIPVLHEMIQIFNLFTSKDSSAAMDETLIDKFTYELYOQNDLEA 120
QY 121 CVIQGVGVETPLMKEDSLAVRKYFORITLYLKEKKYSPCAWEVVAEIMRSFSLSTNL 180
DB 121 CVIQGVGVETPLMKEDSLAVRKYFORITLYLKEKKYSPCAWEVVAEIMRSFSLSTNL 180
QY 181 QESLSRKE 188
DB 181 QESLSRKE 188

RESULT 3

US-10-087-325-2
Sequence 2, Application US/10087325
Publication No. US20020192682A1
GENERAL INFORMATION:
APPLICANT: Escary, Jean-Louis
TITLE OF INVENTION: NEW POLYNUCLEOTIDES AND POLYPEPTIDES OF THE IFNalpha-2 GENE
FILE REFERENCE: 021349/0010
CURRENT APPLICATION NUMBER: US/10/087,325
CURRENT FILING DATE: 2002-03-01
PRIOR APPLICATION NUMBER: FR 0102843
PRIOR FILING DATE: 2001-03-01
NUMBER OF SEQ ID NOS: 26
SOFTWARE: PatentIn version 3.1
SEQ ID NO 2
LENGTH: 188
TYPE: PRT
ORGANISM: Homo sapiens
US-10-087-325-2

Query Match 100.0%; Score 960; DB 4; Length 188;
Best Local Similarity 100.0%; Pred. No. 9.8e-94;
Matches 188; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 MALTFALLVALVLSCKSSGCGCDLPQTHSLGSRRTMLLAQMRISLFSCLKDRHDFG 60
DB 1 MALTFALLVALVLSCKSSGCGCDLPQTHSLGSRRTMLLAQMRISLFSCLKDRHDFG 60
QY 61 PFOEFGNOFOKATIPVLHEMIQIFNLFTSKDSSAAMDETLIDKFTYELYOQNDLEA 120
DB 61 PFOEFGNOFOKATIPVLHEMIQIFNLFTSKDSSAAMDETLIDKFTYELYOQNDLEA 120

DB 61 PFOEFGNOFOKATIPVLHEMIQIFNLFTSKDSSAAMDETLIDKFTYELYOQNDLEA 120
QY 121 CVIQGVGVETPLMKEDSLAVRKYFORITLYLKEKKYSPCAWEVVAEIMRSFSLSTNL 180
DB 121 CVIQGVGVETPLMKEDSLAVRKYFORITLYLKEKKYSPCAWEVVAEIMRSFSLSTNL 180
QY 181 QESLSRKE 188
DB 181 QESLSRKE 188

RESULT 4

US-10-411-037-4
Sequence 4, Application US/10411037
Publication No. US20040043446A1
GENERAL INFORMATION:
APPLICANT: Neose Technologies, Inc.
APPLICANT: Defrees, Shawn
APPLICANT: Zopf, David
APPLICANT: Bayer, Robert
APPLICANT: Hakes, David
APPLICANT: Chen, Xi
TITLE OF INVENTION: ALPHA GALACTOSIDASE A: REMODELING AND GLYCOCONJUGATION OF ALPHA
FILE REFERENCE: 040853-01-5082
CURRENT APPLICATION NUMBER: US/10/411,037
CURRENT FILING DATE: 2003-04-09
PRIOR APPLICATION NUMBER: US 60/328,523
PRIOR FILING DATE: 2001-10-10
PRIOR APPLICATION NUMBER: US 60/344,692
PRIOR FILING DATE: 2001-10-19
PRIOR APPLICATION NUMBER: US 60/387,292
PRIOR FILING DATE: 2002-06-07
PRIOR APPLICATION NUMBER: US 60/391,777
PRIOR FILING DATE: 2002-06-25
PRIOR APPLICATION NUMBER: US 60/396,594
PRIOR FILING DATE: 2002-07-17
PRIOR APPLICATION NUMBER: US 60/404,249
PRIOR FILING DATE: 2002-08-16
PRIOR APPLICATION NUMBER: US 60/407,527
PRIOR FILING DATE: 2002-08-28
NUMBER OF SEQ ID NOS: 75
SOFTWARE: PatentIn version 3.2
SEQ ID NO 4
LENGTH: 188
TYPE: PRT
ORGANISM: Homo sapiens
US-10-411-037-4

Query Match 100.0%; Score 960; DB 4; Length 188;
Best Local Similarity 100.0%; Pred. No. 9.8e-94;
Matches 188; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 MALTFALLVALVLSCKSSGCGCDLPQTHSLGSRRTMLLAQMRISLFSCLKDRHDFG 60
DB 1 MALTFALLVALVLSCKSSGCGCDLPQTHSLGSRRTMLLAQMRISLFSCLKDRHDFG 60
QY 61 PFOEFGNOFOKATIPVLHEMIQIFNLFTSKDSSAAMDETLIDKFTYELYOQNDLEA 120
DB 61 PFOEFGNOFOKATIPVLHEMIQIFNLFTSKDSSAAMDETLIDKFTYELYOQNDLEA 120
QY 121 CVIQGVGVETPLMKEDSLAVRKYFORITLYLKEKKYSPCAWEVVAEIMRSFSLSTNL 180
DB 121 CVIQGVGVETPLMKEDSLAVRKYFORITLYLKEKKYSPCAWEVVAEIMRSFSLSTNL 180
QY 181 QESLSRKE 188
DB 181 QESLSRKE 188

RESULT 5
US-10-411-026-4

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1 CURRENT FILING DATE: 2003-04-09
2 PRIOR APPLICATION NUMBER: US 60/328,523
3 PRIOR FILING DATE: 2001-10-10
4 PRIOR APPLICATION NUMBER: US 60/344,692
5 PRIOR FILING DATE: 2001-10-19
6 PRIOR APPLICATION NUMBER: US 60/387,292
7 PRIOR FILING DATE: 2002-06-07
8 PRIOR APPLICATION NUMBER: US 60/391,777
9 PRIOR FILING DATE: 2002-06-25
10 PRIOR APPLICATION NUMBER: US 60/396,594
11 PRIOR FILING DATE: 2002-07-17
12 PRIOR APPLICATION NUMBER: US 60/404,249
13 PRIOR FILING DATE: 2002-08-16
14 PRIOR APPLICATION NUMBER: US 60/407,527
15 PRIOR FILING DATE: 2002-08-28
16 NUMBER OF SEQ ID NOS: 75
17 SOFTWARE: PatentIn version 3.2
18 SEQ ID NO: 4
19 LENGTH: 188
20 TYPE: PRT
21 ORGANISM: Homo sapiens
22 US-10-410-962-4
23
24 Query Match 100.0%; Score 960; DB 4; Length 188;
25 Best Local Similarity 100.0%; Pred.No.: 9; Mismatches 0; Indels 0; Gaps 0;
26 Matches 188; Conservative 0;
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28 QY 1 MALTFPLVALVLSCKSSCSVGCGLPQTHSLGSRRTMLLAKMRISLFSCLAKRHHFG 60
29 1 MALTFPLVALVLSCKSSCSVGCGLPQTHSLGSRRTMLLAKMRISLFSCLAKRHHFG 60
30 Db
31
32 QY 61 PPOEFGNFOKAEITPVLHEMIQOIFNLFSFKSSAANDETLLKFTLYQOLNDEA 120
33 61 PPOEFGNFOKAEITPVLHEMIQOIFNLFSFKSSAANDETLLKFTLYQOLNDEA 120
34 Db
35
36 QY 121 CVIQGVGVETPLMKEDSLIAVKYFORITLYLKEKKYSPCAMEVVAEIMRFSLSITNL 180
37 121 CVIQGVGVETPLMKEDSLIAVKYFORITLYLKEKKYSPCAMEVVAEIMRFSLSITNL 180
38 Db
39
40 QY 181 QESLSRKE 188
41 181 QESLSRKE 188
42 Db
43
44 RESULT 7
45 US-10-411-049-4
46 ; Sequence 4, Application US/10411049
47 ; Publication No. US20040082026A1
48 ; GENERAL INFORMATION:
49 ; APPLICANT: Neose Technologies, Inc.
50 ; APPLICANT: Deftes, Shawn
51 ; APPLICANT: Zopf, David
52 ; APPLICANT: Bayer, Robert
53 ; APPLICANT: Hayes, David
54 ; APPLICANT: Chen, Xi
55 ; APPLICANT: Bove, Gary
56 ; TITLE OF INVENTION: INTERFERON ALPHA: REMODELING AND GLYCOCONJUGATION OF INTERFERON
57 ; FILE REFERENCE: 040853-01-5055
58 ; CURRENT APPLICATION NUMBER: US/10/411,049
59 ; CURRENT FILING DATE: 2003-04-09
60 ; PRIOR APPLICATION NUMBER: US 60/328,523
61 ; PRIOR FILING DATE: 2001-10-10
62 ; PRIOR APPLICATION NUMBER: US 60/344,692
63 ; PRIOR FILING DATE: 2001-10-19
64 ; PRIOR APPLICATION NUMBER: US 60/387,292
65 ; PRIOR FILING DATE: 2002-06-07
66 ; PRIOR APPLICATION NUMBER: US 60/391,777
67 ; PRIOR FILING DATE: 2002-06-25
68 ; PRIOR APPLICATION NUMBER: US 60/396,594
69 ; PRIOR FILING DATE: 2002-07-17
70 ; PRIOR APPLICATION NUMBER: US 60/404,249
71 ; PRIOR FILING DATE: 2002-08-16
72

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;; PRIOR APPLICATION NUMBER: US 60/407,527
;; PRIOR FILING DATE: 2002-08-28
;; NUMBER OF SEQ ID NOS: 75
;; SOFTWARE: PatentIn version 3.2
;; SEQ ID NO 4
;; LENGTH: 188
;; TYPE: PRT
;; ORGANISM: Homo sapiens
US-10-411-049-4

Query Match          100.0%; Score 960; DB 4; Length 188;
Best Local Similarity 100.0%; Pred. No. 9.8e-94;
Matches 188; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 MALTFAVLVALLVLSKSSCSVGCGLPQTHSLGSRRTMLLAQMRRISLFSCLKDRHDFG 60
    |||||||
DB 1 MALTFAVLVALLVLSKSSCSVGCGLPQTHSLGSRRTMLLAQMRRISLFSCLKDRHDFG 60
QY 61 FPOEFGNOFOKAEITPVLHEMIQOIFNLSTKSSAAMDETLDDKFTYELYOQLNDLEA 120
    |||||||
DB 61 FPOEFGNOFOKAEITPVLHEMIQOIFNLSTKSSAAMDETLDDKFTYELYOQLNDLEA 120
QY 121 CVIQGVGVETPLMKEDSLIAVRKYFORITLYLKEKKYSPCAWEVVAEIMRSFSLSTNL 180
    |||||||
DB 121 CVIQGVGVETPLMKEDSLIAVRKYFORITLYLKEKKYSPCAWEVVAEIMRSFSLSTNL 180
QY 181 QESLSRKE 188
    |||||||
DB 181 QESLSRKE 188

RESULT 8
US-10-410-930-4
;; Sequence 4, Application US/10410930
;; Publication No. US20040115168A1
;; GENERAL INFORMATION:
;; APPLICANT: Neose Technologies, Inc.
;; APPLICANT: Defrees, Shawn
;; APPLICANT: Zopf, David
;; APPLICANT: Bayer, Robert
;; APPLICANT: Hakes, David
;; APPLICANT: Chen, Xi
;; APPLICANT: Bove, Caryn
;; TITLE OF INVENTION: INTERFERON BETA: REMODELING AND GLYCOCONJUGATION OF INTERFERON
;; TITLE OF INVENTION: BETA
;; FILE REFERENCE: 040853-01-5056
;; CURRENT APPLICATION NUMBER: US/10/410,930
;; CURRENT FILING DATE: 2003-04-09
;; PRIOR APPLICATION NUMBER: US 60/328,523
;; PRIOR FILING DATE: 2001-10-10
;; PRIOR APPLICATION NUMBER: US 60/344,692
;; PRIOR FILING DATE: 2001-10-19
;; PRIOR APPLICATION NUMBER: US 60/387,292
;; PRIOR FILING DATE: 2002-06-07
;; PRIOR APPLICATION NUMBER: US 60/391,777
;; PRIOR FILING DATE: 2002-06-25
;; PRIOR APPLICATION NUMBER: US 60/396,594
;; PRIOR FILING DATE: 2002-07-17
;; PRIOR APPLICATION NUMBER: US 60/404,249
;; PRIOR FILING DATE: 2002-08-16
;; PRIOR APPLICATION NUMBER: US 60/407,527
;; PRIOR FILING DATE: 2002-08-28
;; NUMBER OF SEQ ID NOS: 75
;; SOFTWARE: PatentIn version 3.2
;; SEQ ID NO 4
;; LENGTH: 188
;; TYPE: PRT
;; ORGANISM: Homo sapiens
US-10-410-930-4

Query Match          100.0%; Score 960; DB 4; Length 188;
Best Local Similarity 100.0%; Pred. No. 9.8e-94;
Matches 188; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
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QY 1 MALTFAVLVALLVLSKSSCSVGCGLPQTHSLGSRRTMLLAQMRRISLFSCLKDRHDFG 60
    |||||||
DB 1 MALTFAVLVALLVLSKSSCSVGCGLPQTHSLGSRRTMLLAQMRRISLFSCLKDRHDFG 60
QY 61 FPOEFGNOFOKAEITPVLHEMIQOIFNLSTKSSAAMDETLDDKFTYELYOQLNDLEA 120
    |||||||
DB 61 FPOEFGNOFOKAEITPVLHEMIQOIFNLSTKSSAAMDETLDDKFTYELYOQLNDLEA 120
QY 121 CVIQGVGVETPLMKEDSLIAVRKYFORITLYLKEKKYSPCAWEVVAEIMRSFSLSTNL 180
    |||||||
DB 121 CVIQGVGVETPLMKEDSLIAVRKYFORITLYLKEKKYSPCAWEVVAEIMRSFSLSTNL 180
QY 181 QESLSRKE 188
    |||||||
DB 181 QESLSRKE 188

RESULT 9
US-10-410-997-4
;; Sequence 4, Application US/10410997
;; Publication No. US20040126838A1
;; GENERAL INFORMATION:
;; APPLICANT: Neose Technologies, Inc.
;; APPLICANT: Defrees, Shawn
;; APPLICANT: Zopf, David
;; APPLICANT: Bayer, Robert
;; APPLICANT: Hakes, David
;; APPLICANT: Chen, Xi
;; APPLICANT: Bove, Caryn
;; TITLE OF INVENTION: FOLLICLE STIMULATING HORMONE: REMODELING AND GLYCOCONJUGATION OF
;; TITLE OF INVENTION: FSH
;; FILE REFERENCE: 040853-01-5059
;; CURRENT APPLICATION NUMBER: US/10/410,997
;; CURRENT FILING DATE: 2003-04-09
;; PRIOR APPLICATION NUMBER: US 60/328,523
;; PRIOR FILING DATE: 2001-10-10
;; PRIOR APPLICATION NUMBER: US 60/344,692
;; PRIOR FILING DATE: 2001-10-19
;; PRIOR APPLICATION NUMBER: US 60/387,292
;; PRIOR FILING DATE: 2002-06-07
;; PRIOR APPLICATION NUMBER: US 60/391,777
;; PRIOR FILING DATE: 2002-06-25
;; PRIOR APPLICATION NUMBER: US 60/396,594
;; PRIOR FILING DATE: 2002-07-17
;; PRIOR APPLICATION NUMBER: US 60/404,249
;; PRIOR FILING DATE: 2002-08-16
;; PRIOR APPLICATION NUMBER: US 60/407,527
;; PRIOR FILING DATE: 2002-08-28
;; NUMBER OF SEQ ID NOS: 75
;; SOFTWARE: PatentIn version 3.2
;; SEQ ID NO 4
;; LENGTH: 188
;; TYPE: PRT
;; ORGANISM: Homo sapiens
US-10-410-997-4

Query Match          100.0%; Score 960; DB 4; Length 188;
Best Local Similarity 100.0%; Pred. No. 9.8e-94;
Matches 188; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
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; PRIOR FILING DATE: 2002-06-07
 ; PRIOR APPLICATION NUMBER: US 60/391,777
 ; PRIOR FILING DATE: 2002-06-25
 ; PRIOR APPLICATION NUMBER: US 60/396,594
 ; PRIOR FILING DATE: 2002-07-17
 ; PRIOR APPLICATION NUMBER: US 60/404,249
 ; PRIOR FILING DATE: 2002-08-16
 ; PRIOR APPLICATION NUMBER: US 60/407,527
 ; PRIOR FILING DATE: 2002-08-28
 ; NUMBER OF SEQ ID NOS: 75
 ; SOFTWARE: Patent version 3.2
 ; SEQ ID NO 4
 ; LENGTH: 188
 ; TYPE: PRT
 ; ORGANISM: Homo sapiens
 ; US-10-410-913-4

Query Match 100.0%; Score 960; DB 4; Length 188;
 Best Local Similarity 100.0%; Pred. No. 9.8e-94;
 Matches 188; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 MALTFALVALVLSCKSSGVGCDLPQTHSLGSRRTMLLAQMRRLSIFSCLKDRHDFG 60
 DB 1 MALTFALVALVLSCKSSGVGCDLPQTHSLGSRRTMLLAQMRRLSIFSCLKDRHDFG 60
 QY 61 FPOEFGNFOKAEITPVHEMIQOIFNLFTDSSAAMDETLDDKFTYELYOQNDLEA 120
 DB 61 FPOEFGNFOKAEITPVHEMIQOIFNLFTDSSAAMDETLDDKFTYELYOQNDLEA 120
 QY 121 CVIAGVGTETPLMKEDSLAVRKYFORITLYLKEKKYSPCAMEVVRAEIMRSFSLSTNL 180
 DB 121 CVIAGVGTETPLMKEDSLAVRKYFORITLYLKEKKYSPCAMEVVRAEIMRSFSLSTNL 180
 QY 181 QESLSRKE 188
 DB 181 QESLSRKE 188

RESULT 13
 US-10-276-642-12
 ; Sequence 12, Application US/10276642
 ; Publication No. US20040235156A1
 ; GENERAL INFORMATION:
 ; APPLICANT: Ralph, Stephen John
 ; TITLE OF INVENTION: IMMUNE POTENTIATING COMPOSITIONS
 ; FILE REFERENCE: DAVI200.001APC
 ; CURRENT APPLICATION NUMBER: US/10/276,642
 ; CURRENT FILING DATE: 2002-11-15
 ; PRIOR APPLICATION NUMBER: PCT/AU01/00565
 ; PRIOR FILING DATE: 2001-05-17
 ; PRIOR APPLICATION NUMBER: PQ/7553
 ; PRIOR FILING DATE: 2000-05-17
 ; NUMBER OF SEQ ID NOS: 20
 ; SOFTWARE: FastSeq for Windows Version 4.0
 ; SEQ ID NO 12
 ; LENGTH: 188
 ; TYPE: PRT
 ; ORGANISM: Homo sapiens
 ; US-10-276-642-12

Query Match 100.0%; Score 960; DB 5; Length 188;
 Best Local Similarity 100.0%; Pred. No. 9.8e-94;
 Matches 188; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 MALTFALVALVLSCKSSGVGCDLPQTHSLGSRRTMLLAQMRRLSIFSCLKDRHDFG 60
 DB 1 MALTFALVALVLSCKSSGVGCDLPQTHSLGSRRTMLLAQMRRLSIFSCLKDRHDFG 60
 QY 61 FPOEFGNFOKAEITPVHEMIQOIFNLFTDSSAAMDETLDDKFTYELYOQNDLEA 120
 DB 61 FPOEFGNFOKAEITPVHEMIQOIFNLFTDSSAAMDETLDDKFTYELYOQNDLEA 120
 QY 121 CVIAGVGTETPLMKEDSLAVRKYFORITLYLKEKKYSPCAMEVVRAEIMRSFSLSTNL 180

DB 121 CVIAGVGTETPLMKEDSLAVRKYFORITLYLKEKKYSPCAMEVVRAEIMRSFSLSTNL 180
 QY 181 QESLSRKE 188
 DB 181 QESLSRKE 188

RESULT 14
 US-10-794-615-4
 ; Sequence 4, Application US/10794615
 ; Publication No. US20040261148A1
 ; GENERAL INFORMATION:
 ; APPLICANT: Dickey, Lynn
 ; APPLICANT: Gasdeska, John
 ; APPLICANT: Cox, Kevin
 ; TITLE OF INVENTION: Expression of Biologically Active
 ; FILE REFERENCE: 40989/267934
 ; CURRENT APPLICATION NUMBER: US/10/794,615
 ; CURRENT FILING DATE: 2004-03-05
 ; PRIOR APPLICATION NUMBER: US/10/675,011
 ; PRIOR FILING DATE: 2003-09-30
 ; PRIOR APPLICATION NUMBER: US 09/915,873
 ; PRIOR FILING DATE: 2001-07-26
 ; PRIOR APPLICATION NUMBER: US 60/293,330
 ; PRIOR FILING DATE: 2001-05-23
 ; PRIOR APPLICATION NUMBER: US 60/221,705
 ; NUMBER OF SEQ ID NOS: 16
 ; SOFTWARE: FastSeq for Windows Version 4.0
 ; SEQ ID NO 4
 ; LENGTH: 188
 ; TYPE: PRT
 ; ORGANISM: Homo sapiens
 ; US-10-794-615-4

Query Match 100.0%; Score 960; DB 5; Length 188;
 Best Local Similarity 100.0%; Pred. No. 9.8e-94;
 Matches 188; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 MALTFALVALVLSCKSSGVGCDLPQTHSLGSRRTMLLAQMRRLSIFSCLKDRHDFG 60
 DB 1 MALTFALVALVLSCKSSGVGCDLPQTHSLGSRRTMLLAQMRRLSIFSCLKDRHDFG 60
 QY 61 FPOEFGNFOKAEITPVHEMIQOIFNLFTDSSAAMDETLDDKFTYELYOQNDLEA 120
 DB 61 FPOEFGNFOKAEITPVHEMIQOIFNLFTDSSAAMDETLDDKFTYELYOQNDLEA 120
 QY 121 CVIAGVGTETPLMKEDSLAVRKYFORITLYLKEKKYSPCAMEVVRAEIMRSFSLSTNL 180
 DB 121 CVIAGVGTETPLMKEDSLAVRKYFORITLYLKEKKYSPCAMEVVRAEIMRSFSLSTNL 180
 QY 181 QESLSRKE 188
 DB 181 QESLSRKE 188

RESULT 15
 US-10-653-350-1
 ; Sequence 1, Application US/10653350
 ; Publication No. US20050019871A1
 ; GENERAL INFORMATION:
 ; APPLICANT: Lee, Eun Jung
 ; APPLICANT: Park, Hyung Ki
 ; APPLICANT: Park, Ji Sook
 ; APPLICANT: Kim, Yeon Hyang
 ; APPLICANT: Lee, Hyune Soo
 ; APPLICANT: Koh, Hyung Kon
 ; APPLICANT: Oh, Myung Suk
 ; TITLE OF INVENTION: GLYCOSYLATED HUMAN INTERFERON ALPHA
 ; FILE REFERENCE: A35967 073226.0119

;/ CURRENT APPLICATION NUMBER: US/10/653,350
;/ CURRENT FILING DATE: 2003-09-02
;/ PRIOR APPLICATION NUMBER: KR 10-2002-0052365
;/ PRIOR FILING DATE: 2002-08-31
;/ NUMBER OF SEQ ID NOS: 19
;/ SOFTWARE: FastSeq for Windows Version 4.0
;/ SEQ ID NO 1
;/ LENGTH: 188
;/ TYPE: PRT
;/ ORGANISM: Artificial Sequence
;/ FEATURE:
;/ OTHER INFORMATION: Human interferon alpha isoform
;/ FEATURE:
;/ NAME/KEY: SIGNAL
;/ LOCATION: (1)...(23)
;/ OTHER INFORMATION: Propeptide
US-10-653-350-1

Query Match 100.0%; Score 960; DB 5; Length 188;
Best Local Similarity 100.0%; Pred. No. 9.8e-94;
Matches 188; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY	1	MALTFALVALVLLVLSCKSSGVGCDLPQTHSLGSRRTMLLAQWRISLFSCLKDRHDFG	60
DB	1	MALTFALVALVLLVLSCKSSGVGCDLPQTHSLGSRRTMLLAQWRISLFSCLKDRHDFG	60
QY	61	FPQEEFGNOFOKAEITPVLHEMIQQLFNLFTSKDSSAAMDETLLDKFYTELYOQINDLEA	120
DB	61	FPQEEFGNOFOKAEITPVLHEMIQQLFNLFTSKDSSAAMDETLLDKFYTELYOQINDLEA	120
QY	121	CVIQGVGTETPTLMKEDSILAARKYFORITLYLKEKKYSPCAMEVVVAEIMRSFSLSTNL	180
DB	121	CVIQGVGTETPTLMKEDSILAARKYFORITLYLKEKKYSPCAMEVVVAEIMRSFSLSTNL	180
QY	181	QESLRSKE	188
DB	181	QESLRSKE	188

Search completed: October 14, 2006, 08:06:40
Job time : 180 secs


```
RESULT 2
US-11-183-218-4
; Sequence 4, Application US/11183218
; Publication No. US2006008906A1
; GENERAL INFORMATION:
; APPLICANT: Neose Technologies, Inc.
; APPLICANT: Defrees, Shawn
; APPLICANT: Zopf, David
; APPLICANT: Bayer, Robert
; APPLICANT: Hayes, David
; APPLICANT: Chien, Xi
; APPLICANT: Bove, Caryne
; TITLE OF INVENTION: ERYTHROPOIETIN: REMODELING AND
; TITLE OF INVENTION: GLYCOCONJUGATION OF ERYTHROPOIETIN
; FILE REFERENCE: 040853-01-5083-US02
; CURRENT FILING DATE: 2005-07-15
; PRIOR FILING DATE: 2003-04-09
; PRIOR APPLICATION NUMBER: US 10/410,945
; PRIOR FILING DATE: 2002-10-09
; PRIOR APPLICATION NUMBER: PCT/US02/32263
; PRIOR FILING DATE: 2002-10-09
; PRIOR APPLICATION NUMBER: US 60/407,527
; PRIOR FILING DATE: 2002-08-28
; PRIOR APPLICATION NUMBER: US 60/404,249
; PRIOR FILING DATE: 2002-08-16
; PRIOR APPLICATION NUMBER: US 60/396,594
; PRIOR FILING DATE: 2002-07-17
; PRIOR APPLICATION NUMBER: US 60/391,777
; PRIOR FILING DATE: 2002-06-25
; PRIOR APPLICATION NUMBER: US 60/387,292
; PRIOR FILING DATE: 2002-06-07
; PRIOR APPLICATION NUMBER: US 60/344,692
; PRIOR FILING DATE: 2001-11-19
; PRIOR APPLICATION NUMBER: US 60/334,301
; PRIOR FILING DATE: 2001-11-28
; PRIOR APPLICATION NUMBER: US 60/334,233
; PRIOR FILING DATE: 2001-11-28
; Remaining Prior Application data removed - See File Wrapper or PALM.
; NUMBER OF SEQ ID NOS: 75
; SOFTWARE: PatentIn version 3.2
; SEQ ID NO 4
; LENGTH: 188
; TYPE: PRT
; ORGANISM: Homo sapiens
US-11-183-218-4
Query Match 100.0%; Score 960; DB 7; Length 188;
Best Local Similarity 100.0%; Pred. No. 8,7e-86;
Matches 188; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 MALPALLVALVLSCKSSCSVGCGLPQTHSLGSRRTMLLAQMRRLSFLCLDRHDFG 60
DB 1 MALPALLVALVLSCKSSCSVGCGLPQTHSLGSRRTMLLAQMRRLSFLCLDRHDFG 60
QY 61 PPOEFNGNOFOKATIPVLHEMIQOIFNLSTKDSAAWDETLDDKFTTELYOQNDLEA 120
DB 61 PPOEFNGNOFOKATIPVLHEMIQOIFNLSTKDSAAWDETLDDKFTTELYOQNDLEA 120
QY 121 CVIOGVGTETPLMKEDSILAVRKYFORITLYLKEKXKSPCAMEVVAEIMRSFSLSTNL 180
DB 121 CVIOGVGTETPLMKEDSILAVRKYFORITLYLKEKXKSPCAMEVVAEIMRSFSLSTNL 180
QY 181 QESLRKE 188
DB 181 QESLRKE 188
QY 181 QESLRKE 188
DB 181 QESLRKE 188

RESULT 3
US-11-429-276-403
; Sequence 403, Application US/11429276
; Publication No. US20060194735A1
; GENERAL INFORMATION:
; APPLICANT: Rosen et al.
```

```
; TITLE OF INVENTION: Albumin Fusion Proteins
; FILE REFERENCE: PFS64
; CURRENT APPLICATION NUMBER: US/11/429,276
; CURRENT FILING DATE: 2006-05-08
; PRIOR APPLICATION NUMBER: 10/775,204
; PRIOR FILING DATE: 2004-02-11
; PRIOR APPLICATION NUMBER: PCT/US02/40891
; PRIOR FILING DATE: 2002-12-23
; PRIOR APPLICATION NUMBER: 60/341,811
; PRIOR FILING DATE: 2001-12-21
; PRIOR APPLICATION NUMBER: 60/360,000
; PRIOR FILING DATE: 2002-02-28
; PRIOR APPLICATION NUMBER: 60/378,950
; PRIOR FILING DATE: 2002-05-10
; PRIOR APPLICATION NUMBER: 60/398,008
; PRIOR FILING DATE: 2002-07-24
; PRIOR APPLICATION NUMBER: 60/411,355
; PRIOR FILING DATE: 2002-09-18
; PRIOR APPLICATION NUMBER: 60/414,984
; PRIOR FILING DATE: 2002-10-02
; PRIOR APPLICATION NUMBER: 60/417,611
; PRIOR FILING DATE: 2002-10-11
; PRIOR APPLICATION NUMBER: 60/420,246
; PRIOR FILING DATE: 2002-10-23
; Remaining Prior Application data removed - See File Wrapper or PALM.
; NUMBER OF SEQ ID NOS: 2222
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 403
; LENGTH: 773
; TYPE: PRT
; ORGANISM: Homo sapiens
US-11-429-276-403
Query Match 100.0%; Score 960; DB 7; Length 773;
Best Local Similarity 100.0%; Pred. No. 5e-85;
Matches 188; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 MALPALLVALVLSCKSSCSVGCGLPQTHSLGSRRTMLLAQMRRLSFLCLDRHDFG 60
DB 1 MALPALLVALVLSCKSSCSVGCGLPQTHSLGSRRTMLLAQMRRLSFLCLDRHDFG 60
QY 61 PPOEFNGNOFOKATIPVLHEMIQOIFNLSTKDSAAWDETLDDKFTTELYOQNDLEA 120
DB 61 PPOEFNGNOFOKATIPVLHEMIQOIFNLSTKDSAAWDETLDDKFTTELYOQNDLEA 120
QY 121 CVIOGVGTETPLMKEDSILAVRKYFORITLYLKEKXKSPCAMEVVAEIMRSFSLSTNL 180
DB 121 CVIOGVGTETPLMKEDSILAVRKYFORITLYLKEKXKSPCAMEVVAEIMRSFSLSTNL 180
QY 181 QESLRKE 188
DB 181 QESLRKE 188
QY 181 QESLRKE 188
DB 181 QESLRKE 188

RESULT 4
US-11-036-257-79
; Sequence 79, Application US/11036257
; Publication No. US20060148680A1
; GENERAL INFORMATION:
; APPLICANT: KIELISZEWSKI, MARCIA
; APPLICANT: XU, JIANFENG
; APPLICANT: KOPCHICK, JOHN J.
; APPLICANT: OKADA, SHIGERU
; TITLE OF INVENTION: GLYCOPROTEINS PRODUCED IN PLANTS AND METHODS OF
; TITLE OF INVENTION: THEIR USE
; FILE REFERENCE: 27211/04081
; CURRENT APPLICATION NUMBER: US/11/036,257
; CURRENT FILING DATE: 2005-01-14
; PRIOR APPLICATION NUMBER: 60/602,562
; PRIOR FILING DATE: 2004-08-18
; PRIOR APPLICATION NUMBER: 60/582,027
; PRIOR FILING DATE: 2004-06-22
; PRIOR APPLICATION NUMBER: 60/536,486
```

PRIOR FILING DATE: 2004-01-14
NUMBER OF SEQ ID NOS: 173
SOFTWARE: PatentIn Ver. 3.3
SEQ ID NO 79
LENGTH: 201
TYPE: PRT
ORGANISM: Artificial Sequence
FEATURE:
OTHER INFORMATION: Description of Artificial Sequence: Synthetic
US-11-036-257-79

Query Match 90.3%; Score 867; DB 7; Length 201;
Best Local Similarity 91.0%; Pred. No. 1e-76;
Matches 171; Conservative 4; Mismatches 13; Indels 0; Gaps 0;

QY 1 MALTFALLVALLVLSCKSSGVGCDLPQTHSLGSRRTMLLAQMRISLFSCLKDRHDFG 60
DB 4 MASLFAFLVVLVLSLAQTTRACDLPQTHSLGSRRTMLLAQMRISLFSCLKDRHDFG 63
QY 61 PPOEFGNOFOKAETIPVLEHMIQOIFNLSTKSSAAMDETLLDKRYTELXOQNDLEA 120
DB 64 PPOEFGNOFOKAETIPVLEHMIQOIFNLSTKSSAAMDETLLDKRYTELXOQNDLEA 123
QY 121 CVIQQGVGTETPLMKEDSILAVRKYFORITLYLKEKKYSPCAMEVYRAEIMRSFSLSTNL 180
DB 124 CVIQQGVGTETPLMKEDSILAVRKYFORITLYLKEKKYSPCAMEVYRAEIMRSFSLSTNL 183
QY 181 QESLSRKE 188
DB 184 QESLSRKE 191

RESULT 5

US-11-036-257-85
Sequence 85, Application US/11036257
Publication No. US20060148680A1
GENERAL INFORMATION:
APPLICANT: KIELISZEWSKI, MARCIA
APPLICANT: XU, JIANFENG
APPLICANT: KOPCHICK, JOHN J.
APPLICANT: OKADA, SHIGERU
TITLE OF INVENTION: GLYCOPROTEINS PRODUCED IN PLANTS AND METHODS OF
FILE REFERENCE: 27211/04081
CURRENT APPLICATION NUMBER: US/11/036,257
CURRENT FILING DATE: 2005-01-14
PRIOR APPLICATION NUMBER: 60/602,562
PRIOR FILING DATE: 2004-08-18
PRIOR APPLICATION NUMBER: 60/582,027
PRIOR FILING DATE: 2004-06-22
PRIOR APPLICATION NUMBER: 60/536,486
PRIOR FILING DATE: 2004-01-14
NUMBER OF SEQ ID NOS: 173
SOFTWARE: PatentIn Ver. 3.3
SEQ ID NO 85
LENGTH: 231
TYPE: PRT
ORGANISM: Artificial Sequence
FEATURE:
OTHER INFORMATION: Description of Artificial Sequence: Synthetic
US-11-036-257-85

Query Match 90.3%; Score 867; DB 7; Length 231;
Best Local Similarity 91.0%; Pred. No. 1.2e-76;
Matches 171; Conservative 4; Mismatches 13; Indels 0; Gaps 0;

QY 1 MALTFALLVALLVLSCKSSGVGCDLPQTHSLGSRRTMLLAQMRISLFSCLKDRHDFG 60
DB 4 MASLFAFLVVLVLSLAQTTRACDLPQTHSLGSRRTMLLAQMRISLFSCLKDRHDFG 63
QY 61 PPOEFGNOFOKAETIPVLEHMIQOIFNLSTKSSAAMDETLLDKRYTELXOQNDLEA 120

DB 64 PPOEFGNOFOKAETIPVLEHMIQOIFNLSTKSSAAMDETLLDKRYTELXOQNDLEA 123
QY 121 CVIQQGVGTETPLMKEDSILAVRKYFORITLYLKEKKYSPCAMEVYRAEIMRSFSLSTNL 180
DB 124 CVIQQGVGTETPLMKEDSILAVRKYFORITLYLKEKKYSPCAMEVYRAEIMRSFSLSTNL 183
QY 181 QESLSRKE 188
DB 184 QESLSRKE 191

RESULT 6

US-11-036-257-65
Sequence 65, Application US/11036257
Publication No. US20060148680A1
GENERAL INFORMATION:
APPLICANT: KIELISZEWSKI, MARCIA
APPLICANT: XU, JIANFENG
APPLICANT: KOPCHICK, JOHN J.
APPLICANT: OKADA, SHIGERU
TITLE OF INVENTION: GLYCOPROTEINS PRODUCED IN PLANTS AND METHODS OF
FILE REFERENCE: 27211/04081
CURRENT APPLICATION NUMBER: US/11/036,257
CURRENT FILING DATE: 2005-01-14
PRIOR APPLICATION NUMBER: 60/602,562
PRIOR FILING DATE: 2004-08-18
PRIOR APPLICATION NUMBER: 60/582,027
PRIOR FILING DATE: 2004-06-22
PRIOR APPLICATION NUMBER: 60/536,486
PRIOR FILING DATE: 2004-01-14
NUMBER OF SEQ ID NOS: 173
SOFTWARE: PatentIn Ver. 3.3
SEQ ID NO 65
LENGTH: 209
TYPE: PRT
ORGANISM: Artificial Sequence
FEATURE:
OTHER INFORMATION: Description of Artificial Sequence: Synthetic
US-11-036-257-65

Query Match 89.9%; Score 863; DB 7; Length 209;
Best Local Similarity 92.0%; Pred. No. 2.6e-76;
Matches 173; Conservative 1; Mismatches 12; Indels 2; Gaps 1;

QY 1 MALTFALLVALLVLSCKSSGVGCDLPQTHSLGSRRTMLLAQMRISLFSCLKDRHDFG 60
DB 4 MASLFAFLVVLVLSLAQTTRACDLPQTHSLGSRRTMLLAQMRISLFSCLKDRHDFG 61
QY 61 PPOEFGNOFOKAETIPVLEHMIQOIFNLSTKSSAAMDETLLDKRYTELXOQNDLEA 120
DB 62 PPOEFGNOFOKAETIPVLEHMIQOIFNLSTKSSAAMDETLLDKRYTELXOQNDLEA 121
QY 121 CVIQQGVGTETPLMKEDSILAVRKYFORITLYLKEKKYSPCAMEVYRAEIMRSFSLSTNL 180
DB 122 CVIQQGVGTETPLMKEDSILAVRKYFORITLYLKEKKYSPCAMEVYRAEIMRSFSLSTNL 181
QY 181 QESLSRKE 188
DB 182 QESLSRKE 189

RESULT 7

US-11-036-257-83
Sequence 83, Application US/11036257
Publication No. US20060148680A1
GENERAL INFORMATION:
APPLICANT: KIELISZEWSKI, MARCIA
APPLICANT: XU, JIANFENG
APPLICANT: KOPCHICK, JOHN J.
APPLICANT: OKADA, SHIGERU

TITLE OF INVENTION: GLYCOPROTEINS PRODUCED IN PLANTS AND METHODS OF
TITLE OF INVENTION: THEIR USE
FILE REFERENCE: 27211/04081
CURRENT APPLICATION NUMBER: US/11/036,257
CURRENT FILING DATE: 2005-01-14
PRIOR APPLICATION NUMBER: 60/602,562
PRIOR FILING DATE: 2004-08-18
PRIOR APPLICATION NUMBER: 60/582,027
PRIOR FILING DATE: 2004-06-22
PRIOR APPLICATION NUMBER: 60/536,486
PRIOR FILING DATE: 2004-01-14
NUMBER OF SEQ ID NOS: 173
SOFTWARE: PatentIn Ver. 3.3
SEQ ID NO 83
LENGTH: 196
TYPE: PRT
ORGANISM: Artificial Sequence
FEATURE:
OTHER INFORMATION: Description of Artificial Sequence: Synthetic
US-11-036-257-83

Query Match 89.6%; Score 860.5; DB 7; Length 196;
Best Local Similarity 89.6%; Pred. No. 4.2e-76;
Matches 173; Conservative 3; Mismatches 12; Indels 5; Gaps 1;
QY 1 MALTFALLVALVLSCKSSCGV-----CDLPOTHSIGSRRTMLLAQMRISLFSCLKD 55
DB 4 MASLFAFVLVLSLSPSPSPSPCDLPOTHSIGSRRTMLLAQMRISLFSCLKD 63
QY 56 RHDFGFPOEFGNFOKAETIPVLHEMIQIIFNLFTKSSAAMDETLLDKFYTELQYL 115
DB 64 RHDFGFPOEFGNFOKAETIPVLHEMIQIIFNLFTKSSAAMDETLLDKFYTELQYL 123
QY 116 NDLEACVIGVGVTETPLMKEDSILAVRKYFORITLYLKEKKYSPCAWEVVAEIMRSFS 175
DB 124 NDLEACVIGVGVTETPLMKEDSILAVRKYFORITLYLKEKKYSPCAWEVVAEIMRSFS 183
QY 176 LSTNLOESLSRKE 188
DB 184 LSTNLOESLSRKE 196

RESULT 8
US-11-036-257-81
Sequence 81, Application US/11036257
Publication No. US20060148680A1
GENERAL INFORMATION:
APPLICANT: KIELISZEWSKI, MARCIA
APPLICANT: XU, JIANFENG
APPLICANT: KOECHICH, JOHN J.
APPLICANT: OKADA, SHIGERU
TITLE OF INVENTION: GLYCOPROTEINS PRODUCED IN PLANTS AND METHODS OF
FILE REFERENCE: 27211/04081
CURRENT APPLICATION NUMBER: US/11/036,257
CURRENT FILING DATE: 2005-01-14
PRIOR APPLICATION NUMBER: 60/602,562
PRIOR FILING DATE: 2004-08-18
PRIOR APPLICATION NUMBER: 60/582,027
PRIOR FILING DATE: 2004-06-22
PRIOR APPLICATION NUMBER: 60/536,486
PRIOR FILING DATE: 2004-01-14
NUMBER OF SEQ ID NOS: 173
SOFTWARE: PatentIn Ver. 3.3
SEQ ID NO 81
LENGTH: 206
TYPE: PRT
ORGANISM: Artificial Sequence
FEATURE:
OTHER INFORMATION: Description of Artificial Sequence: Synthetic
US-11-036-257-81

Query Match 89.6%; Score 860.5; DB 7; Length 206;
Best Local Similarity 89.6%; Pred. No. 4.5e-76;
Matches 173; Conservative 3; Mismatches 12; Indels 5; Gaps 1;
QY 1 MALTFALLVALVLSCKSSCGV-----CDLPOTHSIGSRRTMLLAQMRISLFSCLKD 55
DB 4 MASLFAFVLVLSLSPSPSPSPCDLPOTHSIGSRRTMLLAQMRISLFSCLKD 63
QY 56 RHDFGFPOEFGNFOKAETIPVLHEMIQIIFNLFTKSSAAMDETLLDKFYTELQYL 115
DB 64 RHDFGFPOEFGNFOKAETIPVLHEMIQIIFNLFTKSSAAMDETLLDKFYTELQYL 123
QY 116 NDLEACVIGVGVTETPLMKEDSILAVRKYFORITLYLKEKKYSPCAWEVVAEIMRSFS 175
DB 124 NDLEACVIGVGVTETPLMKEDSILAVRKYFORITLYLKEKKYSPCAWEVVAEIMRSFS 183
QY 176 LSTNLOESLSRKE 188
DB 184 LSTNLOESLSRKE 196

RESULT 9
US-10-568-332-14
Sequence 14, Application US/10568332
Publication No. US20060173167A1
GENERAL INFORMATION:
APPLICANT: Stempfer, Gunter
APPLICANT: Alliger, Peter
APPLICANT: Palma, Norbert
TITLE OF INVENTION: Process for the purification of recombinant polypeptides
FILE REFERENCE: BP/G-33115A LING 61310.US
CURRENT APPLICATION NUMBER: US/10/568,332
CURRENT FILING DATE: 2006-02-13
PRIOR APPLICATION NUMBER: PCT/EP2004/009055
PRIOR FILING DATE: 2004-08-12
PRIOR APPLICATION NUMBER: US 60/494,915
PRIOR FILING DATE: 2003-08-13
NUMBER OF SEQ ID NOS: 14
SOFTWARE: PatentIn version 3.3
SEQ ID NO 14
LENGTH: 192
TYPE: PRT
ORGANISM: Artificial
FEATURE:
OTHER INFORMATION: Synthetic Construct
US-10-568-332-14

Query Match 89.5%; Score 859; DB 6; Length 192;
Best Local Similarity 92.8%; Pred. No. 5.8e-76;
Matches 168; Conservative 3; Mismatches 10; Indels 0; Gaps 0;
QY 8 LVALLVLSCKSSCGVCDLPOTHSIGSRRTMLLAQMRISLFSCLKRDHDFGPOEFG 67
DB 12 LVMAFVIGLAPAAFAADLPOTHSIGSRRTMLLAQMRISLFSCLKRDHDFGPOEFG 71
QY 68 NOFOKAETIPVLHEMIQIIFNLFTKSSAAMDETLLDKFYTELQYLANDLEACVIGVG 127
DB 72 NOFOKAETIPVLHEMIQIIFNLFTKSSAAMDETLLDKFYTELQYLANDLEACVIGVG 131
QY 128 VTEPLMKEDSILAVRKYFORITLYLKEKKYSPCAWEVVAEIMRSFSLSTNLOESLSR 187
DB 132 VTEPLMKEDSILAVRKYFORITLYLKEKKYSPCAWEVVAEIMRSFSLSTNLOESLSR 191
QY 188 E 188
DB 192 E 192

RESULT 10
US-11-429-276-352
Sequence 352, Application US/11429276
Publication No. US20060194735A1

Query	March	89.1%	Score	855.5	DB	7	Length	769
Best	Local Similarity	92.9%	Pred.	NC. 76-75				
Matches	170	Conservative	2	Mismatches	10	Indels	1	Gaps
QY	7	LLVALLVLSCKSSCSV	-GCCDL	PQTHSLGSRRTLLMLAQMRRISLFSCLKDRHDFGFPQEE	65			
QY	2	LLQAFLLFLAAGFAKISACDL	PQTHSLGSRRTLLMLAQMRRISLFSCLKDRHDFGFPQEE	61				
Db	66	FGNFOKAKETIPVLAHEMTQOI	FNLESTDSSAAWETLLDKRYETLXQOLNLEACVIG	125				
QY	62	FGNGQKAKETIPVLAHEMTQOI	FNLESTDSSAAWETLLDKRYETLXQOLNLEACVIG	121				
Db	126	VGVTETPLMKEDSILAARKYFORIT	ILYLKEKKYSQCAWEVVAEIMRFSFSLTNQESIR	185				
QY	122	VGVTETPLMKEDSILAARKYFORIT	ILYLKEKKYSQCAWEVVAEIMRFSFSLTNQESIR	181				
QY	186	SKE	188					
Db	182	SKE	184					

```

RESULT 13
US-11-429-276-407
/ Sequence 407, Application US/11429276
/ Publication No. US20060194735A1
/ GENERAL INFORMATION:
/ APPLICANT: Rosen et al.
/ TITLE OF INVENTION: Albumin Fusion Proteins
/ FILE REFERENCE: pF564
/ CURRENT APPLICATION NUMBER: US/11/429,276
/ CURRENT FILING DATE: 2006-05-08
/ PRIOR APPLICATION NUMBER: 10/775,204
/ PRIOR FILING DATE: 2004-02-11
/ PRIOR APPLICATION NUMBER: PCT/US02/40891
/ PRIOR FILING DATE: 2002-12-23
/ PRIOR APPLICATION NUMBER: 60/341,811
/ PRIOR FILING DATE: 2001-12-21
/ PRIOR APPLICATION NUMBER: 60/360,000
/ PRIOR FILING DATE: 2002-02-28
/ PRIOR APPLICATION NUMBER: 60/378,950
/ PRIOR FILING DATE: 2002-05-10
/ PRIOR APPLICATION NUMBER: 60/398,008
/ PRIOR FILING DATE: 2002-07-24
/ PRIOR APPLICATION NUMBER: 60/411,355
/ PRIOR FILING DATE: 2002-09-18
/ PRIOR APPLICATION NUMBER: 60/414,984
/ PRIOR FILING DATE: 2002-10-02
/ PRIOR APPLICATION NUMBER: 60/417,611
/ PRIOR FILING DATE: 2002-10-11
/ PRIOR APPLICATION NUMBER: 60/420,246
/ PRIOR FILING DATE: 2002-10-23
/ Remaining Prior Application data removed - See File Wrapper or PALM.
/ NUMBER OF SEQ ID NOS: 2222
/ SOFTWARE: PatentIn Ver. 2.0
/ SEQ ID NO 407
/ LENGTH: 769
/ TYPE: PRT
/ ORGANISM: Homo sapiens
US-11-429-276-407

      89.1%; Score 85.5; DB 7; Length 769;
Query Match Similarity 92.9%; Pred No. 76-75; 10; Indels 1; Gaps 1
Matches 170; Conservative 2; Mismatches 10;

7  LVALLVLSCKSSCSV-GCDLPEQTHSLGSRRTLMLAQRRIISLPSCLDKRRHDFGPOEE 65
      : : : : : : : : : : : : : : : : : : : : : : : : : : : :
Db 2  LLAGFLFLILAGPAKISACDLPEQTHSLGSRRTLMLAQRRIISLPSCLDKRRHDFGPOEE 61

66  FGNQFOKAEITPVLHEMTQIIFNLSTYDSSAAMDETLIDKRYTELYOQNLDEACVIG 125
      : : : : : : : : : : : : : : : : : : : : : : : : : : : :
62  FGNQFOKAEITPVLHEMTQIIFNLSTYDSSAAMDETLIDKRYTELYOQNLDEACVIG 121

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QY	126	VGVIETPLMKEDSILAVKXFORTLLYLKEKKYSPCAMEVVAEIMRSPSLNLOESLR	185
Db	122	VGVIETPLMKEDSILAVKXFORTLLYLKEKKYSPCAMEVVAEIMRSPSLNLOESLR	181
QY	186	SKE	188
Db	182	SKE	184

```

RESULT 14
US-11-429-276-402
; Sequence 402: Application US/11429276
; Publication No. US20060194735A1
;
; GENERAL INFORMATION:
;   APPLICANT: Rosen et al.
;   TITLE OF INVENTION: Albumin Fusion Proteins
;   FILE REFERENCE: PF564
;   CURRENT APPLICATION NUMBER: US/11/429,276
;   CURRENT FILING DATE: 2006-05-08
;   PRIOR APPLICATION NUMBER: 10/775,204
;   PRIOR FILING DATE: 2004-02-11
;   PRIOR APPLICATION NUMBER: PCT/US02/40891
;   PRIOR FILING DATE: 2002-12-23
;   PRIOR APPLICATION NUMBER: 60/341,811
;   PRIOR FILING DATE: 2001-12-21
;   PRIOR APPLICATION NUMBER: 60/360,000
;   PRIOR FILING DATE: 2002-02-28
;   PRIOR APPLICATION NUMBER: 60/378,950
;   PRIOR FILING DATE: 2002-05-10
;   PRIOR APPLICATION NUMBER: 60/398,008
;   PRIOR FILING DATE: 2002-07-24
;   PRIOR APPLICATION NUMBER: 60/411,355
;   PRIOR FILING DATE: 2002-09-18
;   PRIOR APPLICATION NUMBER: 60/414,984
;   PRIOR FILING DATE: 2002-10-02
;   PRIOR APPLICATION NUMBER: 60/417,611
;   PRIOR FILING DATE: 2002-10-11
;   PRIOR APPLICATION NUMBER: 60/420,246
;   PRIOR FILING DATE: 2002-10-23
;
; Remaining Prior Application data removed - See File Wrapper or PALM.
;
; NUMBER OF SEQ ID NOS: 2222
;   SOFTWARE: PatentIn Ver. 2.0
;   SEQ ID NO 402
;   LENGTH: 774
;   TYPE: prt
;   ORGANISM: Homo sapiens
US-11-429-276-402

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Query Match      88.9%; Score 853.5; DB 7; Length 774;
Best Local Similarity 95.5%; Pred. No. 11e-74;
Matches 168; Conservative 2; Mismatches 5; Indels 1; Gaps 1

QY      14 LSCKSCSCVG-CDIPQTHSLGSRRLTMLLAQWRRIISFSGCLDRDHFGEFPOEEFGNQFOK 72
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QY      73 AETIPVLEHMTIQIIFNLFSTKDDSSAAMDETLIDKTYTELYQQLNDIEACVYQGVGTETP 132
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QY      133 LMKEDSIIAIVKKYFORITILYLKEKKYSPCAWVAEIMRSSFSLSTNLQESLSRKE 188
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Db      719 LMKEDSIIAIVKKYFORITILYLKEKKYSPCAWVAEIMRSSFSLSTNLQESLSRKE 774

RESULT 15
US-11-429-276-1300
; Sequence 1300, Application US/11429276
; Publication No. US20060194735A1
; GENERAL INFORMATION:
; APPLICANT: Rosen et al.
; TITLE OF INVENTION: Albumin Fusion Proteins
; FILE REFERENCE: PF564

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/ CURRENT APPLICATION NUMBER: US/11/429,276
/ CURRENT FILING DATE: 2006-05-08
/ PRIOR APPLICATION NUMBER: 10/775,204
/ PRIOR FILING DATE: 2004-02-11
/ PRIOR APPLICATION NUMBER: PCT/US02/40891
/ PRIOR FILING DATE: 2002-12-23
/ PRIOR APPLICATION NUMBER: 60/341,811
/ PRIOR FILING DATE: 2001-12-21
/ PRIOR APPLICATION NUMBER: 60/360,000
/ PRIOR FILING DATE: 2002-02-28
/ PRIOR APPLICATION NUMBER: 60/378,950
/ PRIOR FILING DATE: 2002-05-10
/ PRIOR APPLICATION NUMBER: 60/398,008
/ PRIOR FILING DATE: 2002-07-24
/ PRIOR APPLICATION NUMBER: 60/411,355
/ PRIOR FILING DATE: 2002-09-18
/ PRIOR APPLICATION NUMBER: 60/414,984
/ PRIOR FILING DATE: 2002-10-02
/ PRIOR APPLICATION NUMBER: 60/417,611
/ PRIOR FILING DATE: 2002-10-11
/ PRIOR APPLICATION NUMBER: 60/420,246
/ PRIOR FILING DATE: 2002-10-23
/ Remaining Prior Application data removed - See File Wrapper or PALM.
/ NUMBER OF SEQ ID NOS: 2222
/ SOFTWARE: Patentln Ver. 2.0
/ SEQ ID NO 1300
/ LENGTH: 774
/ TYPE: PRT
/ ORGANISM: Homo sapiens
US-11-429-276-1300

Query Match 88.9%; Score 853.5; DB 7; Length 774;
Best Local Similarity 95.5%; Pred. No. 1.1e-74;
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QY 73 AETIPVLHEMIQQIFNLFSTKSSAANDETLDDKFTYELVQQLNDLEACVIOGVGTETP 132
DB 659 AETIPVLHEMIQQIFNLFSTKSSAANDETLDDKFTYELVQQLNDLEACVIOGVGTETP 718
QY 133 LMKEDSLAARKYFORITLYLKEKXKSPCAMEVVRARIMRSFSLSTNLQESLSRKE 188
DB 719 LMKEDSLAARKYFORITLYLKEKXKSPCAMEVVRARIMRSFSLSTNLQESLSRKE 774

Search completed: October 14, 2006, 08:07:25
Job time : 40 secs

STIC-Biotech/ChemLib

From: Seharaseyon, Jegatheesan
Sent: Thursday, October 12, 2006 7:56 AM
To: STIC-Biotech/ChemLib
Subject: RE: Re:10/650350

Hi,
Sorry. the serial nimer of the case was typed wrong.
It is 10/653350. Therefore, please search SEQ ID NO:1 of 10/653350.

Thanks in advance,
Seyon.

-----Original Message-----

From: STIC-Biotech/ChemLib
Sent: Wednesday, October 11, 2006 4:56 PM
To: Seharaseyon, Jegatheesan
Subject: RE: Re:10/650350

There is no valid CRF for this serial number, please provide us with another valid serial number. Thank you

LEONARD 2-2520

-----Original Message-----

From: Seharaseyon, Jegatheesan
Sent: Wednesday, October 11, 2006 4:51 PM
To: STIC-Biotech/ChemLib
Subject: Re:10/650350

Hi,
Please search SEQ ID NO: 1 of 10/650350 in th commercial databases.
Please provide paper copy of the search results.

Thanks,
SEHARASEYON
Box Rem. 4C70,
Rem 4C61
2-0892.

Searcher: _____
Searcher Phone: _____
Date Searcher Picked up: _____
Date completed: _____
Searcher Prep Time: _____
Online Time: _____

Type of Search
NA# _____ AA# _____
S/L: _____ Oligomer: _____
Encode/Transl: _____
Structure #: _____ Text: _____
Inventor: _____ Litigation: _____

Vendors and cost where applicable
STN: _____
DIALOG: _____
QUESTEL/ORBIT: _____
LEXIS/NEXIS: _____
SEQUENCE SYSTEM: _____
WWW/Internet: _____
Other (Specify): _____